



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

Contract Number DE-AC05-00OR22800

Evaluation Period: October 1, 2011 through September 30, 2012

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 Technical Services, LLC (B&W Y-12) performance for the period October 1, 2011, through September 30, 2012. 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 NNSA Production Office (NPO) met periodically 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 periodic 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**

### **Directed Stockpile Work/Campaigns/Plant Directed Research and Development**

The overall rating for DSW/Campaigns/PDRD is "Very Good." This rating is based on positive performance for DSW production milestones, cost, and schedule, and negative performance for Campaigns, Packaging, and first use project milestones. Of the twenty-nine (29) DSW Level 2 and Multi-Site Milestones, all were completed (26) or cancelled (2) except one which was rated as Red (Oven Consolidation Project). Regarding the fourteen (14) DSW First Use projects, ten (10) were completed, three (3) did not complete intermediate project milestones as planned including the Oven Consolidation Project which resulted in a Red rating, and 1 was unresolved. Cost and schedule performance indexes for all DSW sub-programs were all on-track at the end of FY 2012. The W76-1 LEP achieved 100% on required deliverables even with a major cost challenge from NNSA. The B61 LEP work was fully completed despite volatile swings in work scope, funding, and schedules. The Stockpile Systems work met/exceeded the baselines (100% - 120%) with reduced funding. The Dismantlement and Disposition work was 100% on baseline for all systems except the B53 where this work exceeded the baseline (109%) and Disposition (107%). DSW programs were impacted overall from plant-wide events (LO/TO and Security) which resulted in the need to recover lost schedules which was estimated at about \$2.8M. The Campaigns Program was negatively impacted largely due to the delays with the Production Microwave which required several Campaigns Projects to be defunded. The Stockpile Packaging (Container) Program was impacted negatively from procurement quality failures. These failures significantly impacted work at the Pantex plant in terms of work-around and double handling of containers. The packaging issues have already required significant resources to respond, and it is anticipated that additional resources will be required as full recovery is completed. The PDRD program is very well managed and has been operated in compliance with the FY 2012 Program Guidance issued by NA-124.

### **Nuclear Nonproliferation/Naval Reactors/Complementary Work for Others**

The overall rating for Nuclear Nonproliferation (NN) /Naval Reactors (NR)/Complementary Work For Others (CWFO) is "Very Good". This rating is based on these programs meeting or exceeding almost all of the performance and funding targets and meeting cost, schedule and technical performance requirements. Better and more timely communication with the HQ program office concerning management and operating cost changes is needed. This performance was achieved despite the challenges of the current budget restrictions and plant-wide concerns regarding lock out/tag out and the recent Y-12 security issues. B&W played a lead role in a successfully

executed high priority enriched uranium supply and removal operations in Mexico (Y-12 helped fulfill a trilateral commitment made by the United States, Canada, and Mexico for the 2012 Nuclear Security Summit to remove all HEU for Mexico), France, and Australia. HEU disposition projects consistently met customer schedules including: supply for Naval Reactors, NNSA down-blending contracts, HFIR reactor fuel, low equity HEU disposal, removal of legacy HEU items, and LEU supplied for research and isotope production reactors. B&W's performance in support of research reactor conversion was mixed. While performance improved from FY2011, B&W failed to commit key contracts for the Jamaica conversion project in a timely manner and continued to have communication challenges with key partner organizations in the U-Mo fuel program. B&W withdrew the license for the ES-4100 after the NNSA regulator reviewed the SARP and recommended additional drop testing. A corrective action plan to address these issues is still under review by NNSA.

B&W expanded its role in the management of enriched lithium and has improved its working relationships with the Office of Science and the Isotope Business Office. The Alarm Response Training (ART) program received very high praise from HQ program managers and participants. B&W supported the Office of International Material Protection and Cooperation as Y-12 employees made numerous trips to Russia to conduct performance testing workshops. The Nuclear Detection and Sensor Testing Center has been firmly established and has been transferred to a program office to manage long term operation. The Nuclear Forensics program continues to grow with a three year interagency agreement with DHS. B&W is commended for winning the Federal Laboratory Consortium Southeast Region Award for Excellence in Technology Transfer and the Tennessee Valley Technology Council Navigator Award as the Technology Commercialization Champion of the Year. There continues to be very good synergy between the Nuclear Nonproliferation and the Complementary Work for Others programs and the CWFO programs have expanded in both the depth and breadth of activities during this fiscal year. B&W is commended for their efforts in strategic vision/planning and integrating CWFO initiatives with existing Y-12 core missions.

## **II. Operations**

The security event of July 28, 2012 was a major failure under the Operations performance objective. Unacceptable performance occurred across all aspects required for successful operations such as training and qualification, readiness/response, procedures and processes, maintenance, testing, and situational awareness. Based on that security event and the contributing causes none of the available fee would be earned under the Operations performance objective.

However, B&W Y-12 has made significant progress in the last two months of the FY to re-establish confidence in the capability of the Y-12 security systems and protective force. Some of the notable changes/improvements included: reorganizing the security organization through new leadership and, in general, reinvigorating the security program with a sense of urgency and focus; replacing important detectors and sensing equipment as well as establishing adequate spare parts; reducing maintenance times for critical security systems and enhancing performance testing; significantly reducing the rates for false and nuisance alarms; and absorbing the responsibility for managing the Protective Force. Additionally, the contractor conducted an extensive extent of condition review to help identify performance issues for other important plant systems.

Further, the contractor's performance for the other topical areas under the Operations objective was "satisfactory" or better. As a result, the overall rating for the Operations performance objective is satisfactory.

## **Engineering and Nuclear Safety**

The overall rating for Engineering and Nuclear Safety (ENS) for FY 2012 is "Good". The basis for the rating is due to deterioration of performance during FY 2012 and that performance metrics do not drive improvements in processes and identify implementation issues. The safety basis program continued to suffer from quality of safety basis document submittals that resulted in potential inadequacies in the safety analysis, implementation problems, and lengthy periods to resolve NPO comments and resubmit documents, particularly the 9204-2E annual update and UPF preliminary safety design report (PSDR). The 9215/9212 dry pipe systems were declared inoperable due to pipe blockages resulting from inadequate TSR surveillances and placed in fire patrols for extended periods. Three TSR violations resulted from the failure to adequately implement TSR actions. Engineering continues to meet support requirements for the Y-12 mission needs, but needs to improve VSS to NPO expectations. The NCS

Improvement Program implementation and responsiveness remains strong; however, this improvement is tempered by legacy field issues, the failure to continue needed NCSE upgrades, less than adequate production NCSE implementation and support, and basic work control issues. Resolution of issues, particularly those involving 9212 and continued program improvements in the Y-12 NCS operational review process, CAS measurement of CSE efficiency, and implementation effectiveness are required. The failure to implement upgraded NCSEs and lack of commitment of the contractor to funding the NCSE upgrade effort are of a significant concern.

### **Emergency Services**

The overall rating for Emergency Services is “Pass.” The rating is based on a consistent Emergency Management Program and a Fire Protection Engineering Program that had three issues (obstruction investigations, aged sprinklers heads, surveillances) with NFPA 25 compliance that have site wide implications. B&W is currently working these issues with a graded and risk based approach. The active shooter exercise by Emergency Management was a one of a kind exercise and has been benchmarked across the complex as a way to perform an exercise of this scope. Discussions have taken place to provide more real time status of metrics to improve the understanding of the timeframe that fire systems are not available.

### **Radiation Protection**

The overall rating for Radiation Protection is “Very Good.” The rating is based on a well implemented Y-12 RADCON program that complies with requirements. Notable achievements included continued excellent performance and DOELAP accreditation for the External Dosimetry program, continued efforts to reduce the site’s radiological footprint, reduction in overall site dose, RADCON initiated productivity improvements which will result in ~\$22,000 and one FTE in cost savings, improvements in the whole body counter and TLD software, and completion of the DOE O 458.1 implementation plan. Areas of concern include implementation of work controls, ensuring the proper processes are in place to control work, disposal of excess radioactive sources, ensuring adherence to radiological controls by facility organizations, ensuring that the proper controls are in place (and practiced) to minimize personnel contaminations and spread of contamination, and ensuring adherence to RWP requirements.

### **Health and Safety**

The overall rating for the Health and Safety functional area is “Pass.” This rating is based on the achievement of Voluntary Protection Program Star Status, strong oversight demonstrated by B&W Y-12, no significant issues negatively impacting mission being identified by NPO Y-12, the reduced rate of recordable injuries and illnesses as compared to FY 2011 and 2010, and strong wellness participation and performance indicated by the suite of safety and health metrics. Although B&W Y-12 has improvements underway, concerns remain with the frequency of motor vehicle accidents, field implementation of lockout/tagout, ability to respond to ES&H related maintenance concerns in a timely manner, the sometimes excessive amount of time between an ES&H event and a corresponding critique, and consistent categorization of ORPS reportable events.

### **Environmental and Waste Management**

The overall rating for the Environmental and Waste Management functional area is “Excellent.” This rating is based on the improvements in the sanitary I&I problem; the safe and successful disposition of large volumes of LLW at the NNSS; the disposition of 3 LLW midsize boxes with HEU; progress in removing brine from 9201-5; and excellent results from external assessments. Areas of improvement include: the untimely cleanup of outdoor junk and material areas, the need to extend LLW container storage beyond 365 days; and inadequate management of empty product drums stored outdoors.

### **Quality Assurance**

The overall rating for Quality Assurance is “Satisfactory.” This rating is based on a number of quality issues that were identified this fiscal year. B&W is the design authority for certain shipping containers that use foam packing materials. A constituent of the foam was changed without proper analysis or proper approval through the design

authority and the NNSA. This led to a curtailment of shipping using the associated containers while analysis was conducted and the extensive rework of containers and repackaging of NNSA accepted product. The newly installed Y-12 Steam Plant continues to experience quality related operational issues. Examples include failed economizer plate welds, poorly designed boiler feed pumps and improperly-sized back-up air compressor that has led to varied operational upsets. It is not clear if B&W is taking action to identify and address material and component issues before failures occur. Procurement quality continues to be a significant issue in multiple areas including determination of risks and the development and implementation of receipt inspection requirements and sampling plans. The “Quality Index” and “Procurement Quality Index” were developed to score events to assist with analysis and prioritization of corrective action efforts but are in the early stage of implementation. Although progress has been noted, implementation of requirements for the calibration and control of Measurement and Test Equipment needs to continue to improve. Consolidation efforts for the various QA programs need vigorous validation to ensure requirements are not inadvertently omitted. Specific QA deliverables identified in the PEP were turned in on time or early with acceptable quality.

### **Site Sustainability**

The overall rating for Site Sustainability is “Very Good.” This rating is based on the energy consumption reduction for the Jack Case Center (JCC) and other utility initiatives. The JCC obtained the High Performance Sustainable Building status and achieved a 20% reduction in energy consumption through smart plug strips, occupancy sensors, and building setbacks initiatives. Overall the energy reduction for this building was 30.1% which saved \$250K in 6 months. The utility initiatives were also significant achievements resulting in a substantial savings of \$6.6M from a FY2009 baseline. The Energy Modernization and Investment Program metering project was not implemented in accordance with the Site Sustainability Plan. B&W did not effectively resolve equipment issues that negatively affected potential energy savings including: two tower water pumps being run instead of one, inoperable condensate return pumps in 9212 and 9204-2, and chiller pumps/fans being run in a manual mode when automatic controls are in place.

### **Facilities and Maintenance**

The overall rating for Facilities and Maintenance is “Satisfactory.” This rating is based on continued concerns with work control, LO/TO, and maintenance prioritization. B&W has responded well to serious concerns related to control of hazardous energy and work control but continue to have problems in the work control area. Efforts to reduce LO/TO events have been successful in the short term. They have developed additional useful metrics to track performance by work center and that data is starting to drive maintenance efficiency improvements. Budgetary constraints for facility maintenance continue to impact decisions to sustain balance of plant facilities. Facilities are being maintained in accordance with expectations within those constraints. FI&S has done a very good job of assuming responsibility for West End Treatment and Waste Operations activities. Unabated deterioration of building 9201-5 has created additional maintenance cost impacts that will stretch into FY 2013.

### **Conduct of Operations**

The overall rating for Conduct of Operations is “Satisfactory.” This rating is based on continued concerns with the identification, implementation, and verification of the actions associated with the Y-12 Conduct of Operations (CONOPS) and the Work Planning and Execution Improvement plans. Although B&W ultimately took aggressive action to improve Conduct of Operations at Y-12, it wasn’t without extensive help from outside the organization including corporate review boards, DNFSB, and NPO. The results of assessments against implementation of the CONOPS plan confirm that progress is being made to address identified issues and the redesigned training and implementation of the Senior Supervisory Watch (SSW) Program for operations and maintenance is commendable. In the last 6 months, there has only been 1 Technical Safety Requirement (TSR) violation bringing the total for the year to 5 TSR violations. B&W has developed a revised set of CAS metrics for CONOPS however, these metric have only been in effect for approximately 2 months and they show that the Lock Out/Tag Out performance is still at risk. Operational Readiness has met its quarterly reporting requirement. Five operational readiness reviews have occurred in FY12. All were rated either Excellent or Acceptable.

## **Training and Qualification**

The overall rating for Training and Qualification is “Pass.” This rating is based on a stable Training & Qualification program with a highly organized and thorough self-assessment elements built in to identify implementation issues. 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 0.42 % 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 has 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. The use of simulators and mock-ups has enhanced the training in several courses such as Conduct of Operations training. NPO identified issues with training records and documentation, but no programmatic issues were found. There has 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.

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

The overall rating for RTBF/FIRP/STA is “Excellent.” This rating is based on the significant amount of work that was accomplished under extraordinarily difficult circumstances. This work included infrastructure improvements (HVAC upgrades, switchgear replacements) as well as risk reduction activities (brine line isolation, stabilization of the old coal yard). A significant accomplishment was the replacement of failed dry pipe systems in 9215 and 9212 that occurred after the initial FY 12 work scope was planned. The RTBF program was able to reprioritize during the year within existing funding to complete the repairs and ensure the mission work in those facilities was not impacted. The capability to produce purified metal that meets assay and quality requirements was evidenced by the production of the most quality metal in several years. The STA mission deliverables were met; however, there were several Vehicle Maintenance Facility condition issues that required the new contractor to implement corrective actions to resume full facility operational capability. Lastly, with the exception of the Microwave First Use milestone, all Level II and Level III milestones were met for the year.

## **Project Management – Non-Major, Line Items**

The overall rating for Project Management – Non-Major line Items is “Unsatisfactory.” This rating is based on the poor performance of the Production Microwave Project and the Security Improvement Project. Specifically, in relation to the Production Microwave Project, there were and continue to be serious concerns related to testing issues and deviation from associated procedures. The lack of management diligence demonstrated by the contractor during the course of the year drove extensive NNSA Project and Senior Management attention and involvement. In addition, B&W did not communicate effectively with the final users of the microwave technology and repeatedly slipped the stated schedule due to errors committed during testing of the technology. In relation to the Security Improvement Project, B&W failed to adequately communicate and involve end users and stakeholders during the course of the rating period. Evaluation of the Project has established that the current design/installation does not meet customer requirements. In relation to the Nuclear Facility Risk Reduction Project, the contractor met expectations in relation to scope and remained within the agreed to schedule and budget.

## **Project Management –Major Line Items, Uranium Processing Facility (UPF)**

The overall rating for Major Line Items, UPF, is “Unsatisfactory.” This rating is based on the facility size (fit) issue that will increase project cost, extend the project schedule, and result in reduced project scope. With over 75% engineering design reported as being complete, UPF project management notified NNSA that the UPF design team had reached the conclusion that the UPF process equipment and supporting utilities could not physically fit in the facility and maintain adequate operations and maintenance spaces, nor was there sufficient space margin to allow for design evolution and field changes. Notification to NNSA did not occur until late April after the UPF CD-1 Reaffirmation ESAAB. The design resolution to this was not finalized prior to the end of the fiscal year, but was known that it would require a significant increase in design cost, extension of the project schedule, and required removal of planned processing capability from the project scope. The engineering replan delivered on October 19,

reported a TPC cost impact of \$539M and 13 month impact to the overall project schedule as a result of the Space/Fit issue, effectively using 45% of the NNSA contingency established during CD-1 Reaffirmation in April. The materialization of this risk, given the significance of the consequences at a reported 75% design completion juncture, leads to a conclusion that although identified as a project risk in 2009, aggressive management actions were not taken to manage or mitigate the risk. The project did not have a design margin management program or process to mitigate this risk. In addition, the formal communication and reporting of the fit issue was not clear or forthcoming.

The project has not been able to meet key project milestones and has been late in identifying that project schedule milestones would not be achieved. Significant examples include: 1) the 90% design maturity milestone by September was not met even though the project consistently reported through June that it was achievable even with the implementation of the UPF CD-1 Reaffirmation scope (as described in the 30 day plan). This misrepresentation was identified during the UPF Technical Independent Project Review; 2) The engineering replanning baseline change proposal (BCP) to resolve the fit issue was due on August 31, and was reported to NNSA as not achievable on August 30. The engineering replanning BCP was delivered to NNSA on October 19; 3) The Preliminary Safety Design Report (PSDR) Revision 1 was scheduled to be completed on August 22, 2012. The project did not complete the PSDR on schedule and subsequently delivered to NNSA on September 25; and 4) The implementation of the 30 day plan changes did not occur during FY 2012 although direction was provided in March to implement the changes from the change in project scope.

The project did not have a fully integrated project schedule for the ongoing design efforts at the beginning of the fiscal year. The integration of the design and the safety basis deliverables in the UPF project schedule did not occur until March. While working the resolution of the fit issues, the project design schedule did not reflect the ongoing work until a BCP for engineering design efforts was completed in September. The engineering replanning delivered on October 19, reported a TPC cost impact of \$539M and 13 month impact to the overall project schedule as a result of the Space/Fit issue. In addition to the previously mentioned concerns, improvements are necessary in the area of monthly project reports and reviews; timeliness in the processing of BCPs following approval of trends; effective resolution of design quality issues; resolution of design issues and needed engineering process changes; timely and effective communication of project issues; proactive management of project risks, and resolution of safety analysis issues.

The project supported and was prepared for multiple meetings, presentations, and reviews of the UPF project to include the DNFSB, NA-10, USACE, and HSS. Notable accomplishments include: prompt response to NNSA's request to support the President's Budget Request for Fiscal Year 2013 (30 day study); and hosting the Glovebox Forum in May. The project also participated in exchange of information and lessons learned with CMRR and MOX projects, and have surpassed 3.8 million hours of safe work.

### **Safeguards and Security Program Management**

The overall rating for Safeguards and Security Program Management is "Unsatisfactory". This rating is based on the complete failure of the security system/protective force response to the PIDAS penetration on July 28 and the completely unacceptable implementation and operation of the Argus security system. As implemented, Argus unreliability significantly contributed to the PIDAS penetration event of July 28. B&W's response to the initial security incident on July 28 was also unsatisfactory. Significant federal leadership was required in the absence of contractor leadership and support that was "...slow, disoriented, and requiring intervention by NPO." Another negative contributor to the eventual system failure, were the decisions put in place by the contractor Cognizant Security Authority (CSA) to loosen security requirements established by DOE order and/or the NNSA NAPs. Security system testing requirements were changed by the CSA process, which contributed to the unavailability of critical system needed to assess the security event. NPO assessments conducted prior to the security event identified a number of issues associated with the contractor's CSA process and the lack of a critical self-assessment/corrective action program that were contributors to this event.

In response to the event, the contractor reorganized S&ES, established new leadership, implemented new compensatory measures with NPO approval, absorbed the responsibility for management of the Protective Force, implemented required program level improvements, and in general reinvigorated the security program with a sense

of urgency and focus. The test and measure of success for the contractor will be the sustainability of the current efforts and attitudes over the course of time into the next contract period and fiscal year.

Other positive performance observed during the period include: support for the NPO survey of the Honeywell Buffalo Research Laboratory, support of the DNS visits including the Scenario Development Review, and a 2008 Graded Security Protection (GSP) Policy Implementation Review. The later reviews resulted in positive feedback for Y-12 actions. Additionally, B&W supported the DNS/NPO budget process throughout the period. WSI exercises conducted during the period indicated a highly effective engagement capability against the Graded Security Protection (GSP) Policy threat. Numerous Defense Nuclear Security (DNS) reviews conducted during this period indicated that Y-12 had a highly effective security program. In general the B&W Security Program Analysis and Evaluation group fully support their assigned roles and responsibilities in the areas of Issue Resolution, FOCI, Facility Registration, Assessment Planning and Implementation and Performance Testing.

### **Physical Security**

The overall rating for Physical Security is “Unsatisfactory”. This rating is based on the complete failure of the security system/protective force response to the PIDAS penetration on July 28 and the completely unacceptable implementation and operation of the Argus security system. The transition of Y-12 alarm system to the NA-70 approved Argus standard by the Security Improvement Project (SIP) was started during this period. Argus related issues led to greater reliance on compensatory measures. It has proven extremely burdensome to the CAS/SAS operators, as installed, and has created significant hindrance to Operations. It has required very significant rework of the originally installed Argus System. The number of corrective maintenance work requests increased due to the SIP, Argus transition activities, and aging security systems. The increased work with limited availability of technicians resulted in increased time for equipment to be brought back into service and extended duration of applicable compensatory measures (i.e. the PIDAS camera out associated with the July 28<sup>th</sup> event). False and Nuisance Alarm Rate (FAR/NAR) data was not initially retrievable from the Argus system as implemented and NPO noted this in previous reviews and contractor feedback—August was the first time this information was readily available.

The Office of Health Safety and Security (HSS) completed a Site Assistance Visit (SAV) during this period which specifically reviewed Physical Security Systems. The HSS team identified several opportunities for improvement with Argus and the Cognizant Security Authority (CSA) decision process. Despite this review, the systematic failure of the physical security systems was a factor that significantly contributed to the “July 28 security event” in which certain security systems were inoperable leading to inappropriate compensatory measures being used. A major contributing factor was that B&W inappropriately defined PIDAS cameras as Security Significant rather than Critical System Elements, as required by DOE. After the “July 28 Event,” management attention was focused on improvement to the compensatory measures process and completion of corrective maintenance on previously identified non-operational security systems including critical security elements. As a result of this effort, PIDAS cameras were replaced and reclassified as Critical System Elements (CSEs) and are being maintained accordingly. The Office of Health Safety and Security (HSS) Inspection (August 2012) noted significant issues with the B&W Physical Security Systems requiring multiple corrective action plans being developed. The inspection also included a finding on the Lock and Key program in which a systematic finding was closed in the second quarter this Fiscal Year 12. Additionally, the August 2012 HSS OIO inspection of the Physical Security Systems identified findings related to System effectiveness testing, Software QA testing documentation related to Argus, ineffective operator interface features FAR/NAR data not maintained, CCTV Assessment cameras, maintenance prioritization, testing method/cameras, performance testing CSEs, and control of Level I Lock and Keys.

In response to the event B&W has taken a number of very aggressive actions to address deficiencies in physical security systems. Maintenance times have been significantly reduced, performance testing enhanced, FAR/NAR rates significantly reduced, and a significant number of sensors and cameras have been replaced. Because of excellent leadership B&W has moved the program forward leaps and bounds beyond where it was on July 28. However, B&W still needs to take more deliberate/direct actions in the implementation of SIP to correct identified problems.



## **NMC&A**

The overall rating for NMC&A is “Excellent.” This rating is based on overall program performance, development and execution of an enhanced Comprehensive Analysis of Safeguards Strategies (COMPASS) process, continued progress toward reducing uncertainty associated control limits by identifying and addressing major contributors to the propagation of variance limits, and continued work evaluating DYMCAS transformation alternatives. NMC&A demonstrated high performance including performance testing, COMPASS, management assessments, and surveillances. NPO oversight results in conjunction with the HSS Inspection results 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. NMC&A has implemented effective material surveillance, item monitoring and process monitoring programs which are providing positive feedback on program performance. The program continues to be recognized as a leader in the DOE Complex. Two findings were identified in the HSS Inspection in this area, and corrective action plans are being developed to address these concerns. Five “Opportunities for Improvement” were also identified during the HSS Inspection, which are being actively pursued for overall program improvements.

## **Personnel Security**

The overall rating for Personnel Security is “Pass.” This rating is based on an effective program but there are areas for improvement in Human Reliability Program. NPO assessments including shadow and document review assessments of the B&W Personnel Security over the FY 2012 did not identify any major issues that drop the program below “effective” or “Pass.” NPO conducted document review assessments, and did not note any issues or concerns in Access Authorization, Control of Classified Visits, or Unclassified Visits and Assignments by Foreign Nationals. NPO did identify an observation in Safeguards and Security Awareness regarding the General Employee Training, and identified nineteen (19) issues during the joint B&W Y-12/NPO review of the B&W Y-12 Human Reliability Program. The Office of Health Safety and Security (HSS) Inspection (August 2012) report identified a finding which stated, “B&W has not completed a biannual review or updated the Y-12 HRP Implementation Plan and the B&W HRP determinations are based on outdated Job Task Analyses.” Based on briefings provided to NPO, the contractor continued to monitor identified issues and corrective actions, and the contractor did develop COMPASS to better integrate Personnel Security areas.

## **Information Protection**

The overall rating for the Information Protection is “Pass.” This rating is based on an overall effective program although areas for improvement were noted based on a number of IOSCs identified during this period. The IOSCs involved document marking, handling, classification reviews, and control of classified. Areas for improvement were noted in B&W’s self-assessment system including: formal documentation of issues and corrective actions, communication of shadow opportunities, integration of all Information Security functional areas. The control and handling of classified in open storage configuration was noted as unacceptable in one MAA from a housekeeping standpoint.

## **Cyber Security**

The overall rating for Cyber Security is “Very Good”. This rating is based on an effective and efficient cyber security program although shortfalls were noted in the area of risk management. The compilation of Federal assessment results, contractor assessment results, metrics, and external feedback by HSS or the NNSA CIO’s office indicated that the cyber risk envelope is largely being managed within the approved Risk Management Framework. An inspection conducted by the Office of Independent Oversight on the Classified Cyber Systems had no findings; however, eight risk management and technical opportunities for improvement were identified. A site assistance visit (SAV) conducted by the NNSA CIO’s office on unclassified systems noted positive aspects of the B&W program as well as areas for improvement. B&W self-assessment reports were of strong quality and covered all topical areas. B&W implemented a risk registry and continued to provide transparency into the cyber process, procedures, cyber plans, and assessment results which support the risk management framework and insight to the NPO. B&W cyber personnel supported One NNSA initiatives and were instrumental in supporting the B&W deployed Microsoft Lync site-wide on the unclassified network and federated instant messaging and presence with Y-12 and Pantex. Risk

assessments developed for this technology were used in the Right Path Implementation Plan and provided to the Department of Energy IM-60 staff for use.

Overall positive performance indications were noted in metrics; in the successful installation and implementation of Data Loss Prevention tools; the deployment of Lync to support video conferencing; participation in NNSA initiatives (e.g., continuous monitoring); and positive performance during budget planning activities. In addition, data calls were typically on time and of good quality and issues were identified and tracked with corrective actions developed as required. NPO did note marginal performance with regard to initial response actions related to a previous cyber security issue, when B&W displayed a lack of urgency with regard to providing all the available data to the assistance team. NPO provided feedback to B&W on this matter and noted that performance improved significantly moving forward. While NPO noted B&W conducted a variety of important self-assessments, an overarching Risk Management program review was not conducted nor were other programmatic assessments such as vulnerability management. While aspects of these areas were indeed reviewed, there was no indication that B&W conducted a systems-based assessment where the assessment was planned with a broad scope to include programmatic and performance aspects of cyber security.

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

#### **General Management**

The overall rating for General Management is “Pass.” This rating is based on the collective performance of each functional area.

General Management - B&W Y-12 was timely and accurate, to information requests, budget exercises, work insertion requests, etc. These ad-hoc, often time-sensitive requests covered a wide range of subject areas. Specific submissions are detailed under the appropriate performance target.

Legal- B&W Y-12 demonstrated effective performance in these areas by the following: Settlement of *Wolfe* case during early state of litigation minimized costs of further litigation; effective communication of status and efforts to settle outstanding cases, including four HEUMF cases; successful litigation and appeal of *Scheib* lawsuit; avoidance of extensive travel costs related to *Foley* mediation by pursuing mediation in Oak Ridge; and overall effective review of outside counsel invoices. Information presented by the Legal Staff over the past six months was responsive, accurate, well-supported and provided in a timely and complete manner, including legal analysis related to appropriate signature on UPF permits; response to whistleblower legal costs data call; information related to ALB Complex’s need for info related to summary retrospective insurance policies; and updates related to recovery of low-level radioactive waste from Impact Services, Inc.

Public Affairs - Public affairs communications continued to provide high quality public affairs products in support of the Y-12 mission in FY12. Of particular note was the support provided in responding to high level of media inquiries and requests following the July 28 security incident at Y-12. Earlier in the year, proactive media metrics continue to be exceeded beyond YSO expectations. Significant improvements have been made in emergency public communications activities with the development of the new Y-12 Media Center concept, which includes not only major upgrades to the New Hope Center but also a dedicated effort to create a formal social media protocol, accidental death protocol, and creating and staffing two new cadre positions. Protocol performance was excellent throughout the year. Photographic, graphic arts, and audio-visual support has been excellent during this period, particularly with the standup of the NPO in June.

Internal Control - Internal Audit’s (IA) completed fourteen planned internal audits during FY 2012. Additionally, their FY 2013 Internal Audit Plan was timely submitted as required. Further, IA responded timely and efficiently to all requested actions such as follow-up status of corrective actions; IG/GAO audit report responses; and special congressional inquiries. Lastly, the E&IA responded thoroughly and timely to eight NPO requests associated with contractor employee concerns as well as addressing sixty-six ECP concerns they received during the fiscal year, for a combined total of 74 employee concerns. Increased interest by NNSA OFFM and the DOE OIG related to auditing of subcontracts was noted during FY 2012. IA efforts to address the concern include such actions as

utilizing staff augmentation support personnel and reassigning 400 IA hours to support subcontract audit. It should be noted that NNSA OFFM has recently recognized improvement in the IA subcontract audit area.

Modernization - B&W provided excellent sustained support for Y-12 modernization and complex wide transformation initiatives including support for the development of the Stockpile Stewardship and Management Plan, Capability Infrastructure Framework, new project data sheets for the Construction Working Group, Emergency Response Facility project, the delivery of the Enriched Uranium Transition Plan, Twenty-Five Year Site Plan, NNSA Facility Disposition Program; and enriched uranium transition planning associated with the UPF re-scope effort, phase 2 FRR, and protected area reduction project.

Process and Productivity Improvements – B&W Y-12 validated 389 productivity initiatives totaling approximately \$63.6M which included cost efficiencies, cost avoidances, and hard savings unrelated to FBLR costs. During the course of the year B&W continually demonstrated excellent performance implementing the P&PI program. A persistent flow of continuous improvement initiatives were implemented & validated throughout the year.

NPO Y-12 validated 19 of the above initiatives for a total of \$28M during FY12. This equated to 44% of the total dollar cost savings reported by the contractor.

Overall B&W showed a significant improvement in the quality of their initiative presentations and written Initiative Summary Reports. A few comments are as below:

PROS:

- Initiative Scope-The contractor displayed good improvement in defining more clearly the project objective for an initiative as the year went on.
- Validation Report Calculation Logic - The contractor “showing their work” in the summary initiative reports steadily improved during the year. Calculation errors were less frequent and the formulas used to generate the cost savings results were more accurate and visible than previous years.

CONS:

- Some reports still display missing formulas and/or data making it quite difficult or almost impossible to audit. Questions had to be asked to the key players to better clarify some of the calculations

**Business Management**

The overall rating for Business Management is “Pass.” This rating is based on the collective performance of each functional area.

Fiscal Management – B&W exhibited effective funds management and very good day-to-day financial support as evidenced by: no Obligation Control Level violations, timely corrections of any administrative violations, and effective management of limited funds during period of less than full allotment; responsiveness to requests for allotment split/financial plan input, including actions associated with new Directed Stockpile Work Budget and Reporting Classification Codes; accurate and timely financial reporting (both “integrated” and “off-line”); support of Budget and Programming Process (Summit information, Enterprise Portfolio Analysis Tool input, Selected Acquisition Report, Work for Others [WFO] estimates, etc.); timely provision of FY 2013 planning data (Disclosure Statement, Forward Pricing Rates, Prioritized Project Lists); timely response to ad hoc requests; and excellent support during various OFFM reviews.

Notable accomplishments include 1) reducing the amount of Category C Reimbursable WFO cost overruns, 2) working with OFFM to establish a special allocation for indirect costs associated with the assigned WSI subcontract, 3) initiation of effort to automate the Work Authorization concurrence/approval process, and 4) continuing to enhance Business Performance/Performance Track (establishment of Service Center and Cost Savings performance tracking) and to convert processes from paper to electronic. Negative issues noted during the period were relatively few, and most were addressed in a timely manner. Continuing issues include: Aged WFO Receivables inconsistency with STARS, difficulty in correctly submitting and explaining a Prior Period Adjustment for weapons

components inventory, delta between FIMS and STARS, and timely implementation of a nuclear material accounting module.

Human Resources – CHR accomplished several goals in accordance with applicable policies and procedures. These goals include such activities as validated productivity initiative savings associated with changes to the current drug prescription contract and better pricing for the future years contract; modifications to paid leave and benefit changes for salaried employees; implementation of a Post Retirement Employment Program – retaining sixteen retired employee participants; efficiencies gained through elimination of hard-copy documents to electronic storage and distribution; as well as submittal of a Benefits Value Corrective Action Plan. Additionally, although the Y-12 hiring freeze continues, CHR continued in efforts to maintain an effective work force. For example, CHR Labor and Employee Relations strengthened relationships with bargaining unit personnel by working with union representatives and Y-12 organizations addressing issues, as applicable. Further, 99% of critical skill positions were filled, which exceeded their own performance target of 90% filled. Also, the acceptance rate for critical skill positions is at 92%.

Property and Fleet Management - Y-12 Property and Fleet Management met applicable regulations and requirements as verified by three performance target metrics and three stretch goals.. The results of B&W management assessments provided a number of beneficial observations that has the potential to strengthen the overall property program. B&W revised the Property Plan which is used as the basis of property operations. Property and Fleet Management presented system enhancement opportunities to the JORRB during this fiscal year. This initiative provided cost savings opportunities to reduce the size of the Personal Property Administratively Controlled holdings and implemented the \$5K to \$10K threshold for Personal Property Equipment. The annual cost savings associated with this initiative is estimated to be \$151K. Property Management also continued an FY11 initiative to utilize touches, electronic pings, and statistical sampling for inventory to reduce operational cost. Fleet Management reduced their fleet inventory by 100 vehicles. A site-wide "Taxi Service" has been implemented to provide an alternate mode of transportation.

Procurement Management - Procurement satisfied all SCM goals set locally and those tracked by NNSA SCM Center. Procurement lagged behind its overall subcontracting goal of 45% for most of the year. However, they managed to make the overall subcontracting goal during the last several weeks of the fiscal year. This reflects a noteworthy effort. They also met or exceeded the socioeconomic sub goals for Small Disadvantaged Business, Woman-Owned Business, and Veteran-Owned Business; they did not meet the goals for HUBZone Small Business and Service- Disabled-Veteran-Owned Small Business.

Contract Management - Contract Management met all monthly performance goals for processing S/RID changes, Impact Assessments, and the RCAM system. A total of eighteen contract modifications were processed of which several were not routine requiring negotiation, and miscellaneous issues such as the ever-developing requirements for conference management system are covered by Contract Management.

## **Information Technology**

The overall rating for Information Technology is “Pass.” This rating is based on 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 support for NPO. Overall, the B&W IT program is very strong, retains knowledgeable staff, implements pro-active solutions, and quickly addresses any identified issues. B&W Y-12 IT has worked in cooperation with B&W Pantex IT throughout the year to provide the NPO with federated collaboration technology, including MS Lync and SharePoint. B&W Y-12 IT is also actively working to implement an NPO cloud that will provide inter-site email, calendaring and SharePoint, a first for NNSA. B&W Y-12 has continued its deployment of wireless computing across the site. Y-12 IT has taken an aggressive proactive approach to ensure that both the NNSA and Y-12 have IP-based VTC capability by securing a Y-12 IP-based video conference bridge for the enterprise. Although the IT metric for customer satisfaction exceeded the goal this FY, it was noted that a steady decline in satisfaction has been occurring since April. In the last few months of the 4<sup>th</sup> quarter, the plant has been experiencing an unusual increase in IT interruptions, particularly noticeable in the site office. It is recognized that some interruptions have been caused from multiple NNSA sites’ configuration

management issues. Providing Y-12's data centers with reliable, long lasting backup power should also help to reduce interruptions in service.

### **Contractor Assurance**

The overall rating for Contractor Assurance is "Unsatisfactory". The contractor assurance system (CAS) was not utilized in a manner to help identify and remedy the degrading performance of systems critical to properly executing the mission of the Y-12 National Security Complex. The contractor focused on identifying, tracking and resolving individual issues to the detriment of systems analysis and determining the effectiveness of those systems. The contractor maintained an extensive array of metrics (over 400) but failed to identify or otherwise designate which (if any) were key to understanding the performance of critical systems. The analysis process for metrics often stopped at the product of the logic with no interpretation of the information regarding significance or meaning beyond the result of the number crunching. Assessment activities under the CAS concentrated on compliance and status of issues rather than performance for executing the mission safely and securely. The contractor did not avail themselves of opportunities to learn from "information rich events" unless prompted by the Federal staff as part of oversight e.g., the lock out/tag out causal factors analysis. Overall the contractor was weak in being self-critical, an essential element of effective contractor assurance. Inadequacies of the CAS were a significant contributor to the security event of July 28, 2012 with respect to the degradation of critical security systems.

## FY 2012 STRETCH AWARD FEE INCENTIVES

### I. PROGRAM

#### A. Nuclear Nonproliferation (NN)/Naval Reactors (NR)/Complementary Work For Others (CWFO)

##### **Performance Measure 1: Increase support to Defense Nuclear Nonproliferation (DNN) programs.**

##### **Performance Target:**

- a. Provide evidence of increasing support to DNN through achievements such as an increased number of projects, an increase in the amount of Y-12 resources supporting these programs, increased funding, and quick response to emerging DNN needs.

Y-12 increased its support of nuclear nonproliferation in FY2012 as demonstrated by its support of new initiatives within the NA-24 program offices including: Bilateral Assessment Methodology; Gamma Isotopic Analysis; NDSTC Infrastructure Enhancements; Warhead Measurement Campaign; and UF6 Age Dating. In addition, Y-12 support of NA-25 programs increased by approximately \$5.5 million in FY2012 over FY2011.

##### **Performance Measure 2: Enhance the management of DNN, NR, and CWFO programs.**

##### **Performance Target:**

- a. Prepare and issue a program management guide that provides a complete and consistent approach to the management of DNN, NR, and CWFO programs. The guide will be an expansion of the current Y-12 Program Management Guide, being specific to DNN, NR, and CWFO programs. It will include specific criteria for program managers to use to determine the appropriate graded approach to implement for each program/project, as well as the details of each approach. Based on the result of the criteria evaluation, each specific approach will be defined for program/project planning to include schedule development, estimating, charge code structures, SAP planning, project execution, program/project reporting and review, and project documentation. This will be issued by September 13, 2012.

To meet this performance target, Y-12 issued, "Nuclear Nonproliferation and Global Security Programs Program Management Process" (Y/NSP-873) which is integrated with and supplements the site-wide program management guide. This DNN/NR/CWFO guide is intended as a supplement to address the nuances of these particular scopes of work for this unique customer group. The guide provides a standardized and repeatable approach for managing portfolios, programs and projects to ensure a successful outcome. The guide includes criteria for determining the appropriate approach for each program and defines the approach for planning, execution, reporting, and review and documentation. It also outlines roles and responsibilities training requirements and other management responsibilities.

##### **Performance Measure 3: Emerging Missions Strategic Vision and Implementation plan**

##### **Performance Target:**

- a. Complete action items identified in the Emerging Missions Strategic Vision and Implementation plan. Revise the plan by September 1, 2012 to reflect the latest strategies to increase the utilization of Y-12 core competencies and capabilities. Prepare a publicly releasable version of the Emerging Missions Strategic Vision suitable for interfaces with stakeholders and potential customers by June 1, 2012.

Y-12 completed all 36 of the actions from the original plan and submitted a revision to the Emerging Missions Strategic Vision Implementation Plan by letter dated August 30, 2012. The plan outlines the

emerging missions' strategic priorities for fiscal year 2013. It focuses on five primary mission growth areas and identifies 34 new targeted actions to be completed in FY13. A publically releasable version was issued to meet the June 1 date. The documents are all of high quality and provide a sound basis for moving forward with the vision to improve and expand Y-12's contribution to these national security programs while helping to maintain Y-12's unique core competencies.

## **B. Stockpile Programs**

**Performance Measure 1: Advance the development of Electro-refining (ER) technology.**

**Performance Target:**

**a. By September 30, 2012, develop Electro-refining (ER) technology to include:**

1. Finalization of eutectic selection for the ER cell.
2. Determination of acceptable feed materials for the ER cell,
3. Evaluation of the use of chips as feed material for the ER cell,
4. Determination of the reliable product throughput for the ER cell,
5. Demonstration of the operation of the General 2 ER cell.
6. Determination of the Technology Readiness Level (TRL) of the ER technology via an independent evaluation.

Five of the six items under this target have been successfully completed. While objective number 5 has not been entirely completed, most of tasks necessary to support the first run of the generation 2 ER cell were completed by September 30, 2012.

## **II. OPERATIONS**

The Gateway was not met for this category.

## **III. INSTITUTIONAL MANAGEMENT AND BUSINESS**

### **A. Information Technology**

**Performance Measure 1: Telework and Remote Access.**

**Performance Targets:**

- a. Architect a robust infrastructure design and implement VDI to facilitate remote access and telework. Leverage VDI solution to reduce the number of laptops on site and replace with lower cost tablets. 9/30/12
- i. A virtual desktop infrastructure (VDI) was created for off-site software developers, including Visual Basic Suite.
  - ii. Tablets and tools were evaluated to implement load balancing and expand the Citrix infrastructure.
  - iii. Citrix resources were tested and implemented, and WinTS was migrated to Citrix platforms.

Milestone was completed successfully.

- b. Evaluate, recommend, and implement technology to provide secure access to email and calendars from a personal smart-phone device. Complete risk assessment to allow personal devices into the Protected Area (PA) (excluding Material Access Areas (MAAs)) and reduce the number of government issued Blackberrys and pagers at Y-12 to realize cost savings. 5/31/12
- i. Good Technologies has been piloted using government-provided devices to evaluate the technology and functionality of extending secure access to email, calendar, and contacts.

- ii. A standing order was released that permits government-provided portable electronic devices in security areas, excluding material access areas (MAAs).

Milestone was completed successfully.

#### **Performance Measure 2: Cloud Computing.**

##### **Performance Targets:**

- a. Deployment of a dedicated VPN tunnel to the federal 2NV cloud that allows secure controlled communications between all connected sites. 3/31/12
  - Lync Federation was tested over a dedicated virtual private network (VPN) tunnel with Pantex in preparation for bringing up a Lync Federation with additional NNSA sites once the NNSA 2NV cloud is implemented.

Milestone was completed successfully.

- b. Movement of three systems (email, collaboration, and 1 more of B&W Y-12 choosing) to the 2NV private cloud for hosting. Integrate with 2NV cloud for presence, if feasible. 9/30/12

Due to constraints impacting the deployment of NNSA's 2NV Cloud, this milestone was not completed.

#### **Performance Measure 3: Mobility.**

##### **Performance Targets:**

- a. Deploy wide area wireless networking solution in approved areas of Y-12 in support of the Enterprise Wireless project. 9/30/12
  - Outdoor wireless mesh networking communications were demonstrated between New Hope Center and Environment, Safety and Health (ES&H) remote locations.

Milestone was completed successfully.

- b. Deploy classified wireless capability in a Y-12 classified production area (assumes NSA approval of the architecture is in place). 9/30/12
  - The National Security Agency (NSA) has not provided an approved process for certification of such systems; additionally, vendor product offerings to support classified wireless deployment that meets NSA and Y-12 requirements have not been certified by NSA. This must occur before any architecture design can be approved by NSA.

Due to constraints by the National Security Agency, this milestone was not completed.

#### **Performance Measure 4: Infrastructure.**

##### **Performance Targets:**

- a. Transition from tape backups to disk-to-disk back-ups with data de-duplication in both the classified and unclassified environments to realize cost savings and reduce risk of data loss. 3/31/12
  - Specifications were developed for a technical solution, and plans were initiated for procuring a virtual back-up capability. Implementation is limited due to lack of funding.

Due to funding constraints, this milestone was not fully completed.



- b. Complete a Suite B, thin client architecture and design that would allow toggling between the classified and unclassified environment from a single thin-client device and over a single cable. Demonstrate proof of concept. 9/30/12
  - o A collaboration project to design and deploy a Suite-B classified wireless client for use by the National Security Enterprise (NSE), was initiated to submit a proposal for Cyber Sciences Laboratory funding with LANL and Aruba Networks as proposal partners. The draft proposal is almost complete and should be finalized in response to the Cyber Sciences Laboratory data call when the data call is issued.

Milestone not fully completed.

**Performance Measure 5: Demonstrate collaboration with B&W Pantex.**

**Performance Targets:**

- a. Y-12 will identify candidate information technology (IT) projects, collaborating with Pantex where appropriate. Working with the site offices, the initiatives will demonstrate operational efficiencies and cost reductions to support NNSA's vision for a fully integrated Enterprise.
  1. Y-12 will prepare two project plans for testing and implementation of new video-teleconference (VTC) capability. Testing will be coordinated with Pantex in order to conclude with an enhanced inter-site VTC capability allowing more spontaneous VTCs and less cost per session. The enhanced VTC approach will include testing a new commercially available technology for multi-form factor (i.e. conference room, desktop computer, laptop computer, tablet, smartphone, etc.) VTCs and enhanced utilization of a previously tested Internet Protocol (IP) technology. Both technologies are IP-based and utilize Microsoft Lync. The project plans for each of the two work areas will be complete by June 20.
  2. Y-12 will develop and implement (according to its project plan) greater utilization of Polycom CX5000 (IP VTC) devices. Establishing a Polycom-based VTC capability in small conference rooms currently next to NNSA Site Offices work space, the Polycom capability will enhance ad-hoc VTC capability both intra-Y12 and with Pantex. Coordination with Pantex will include a similar capability at their site. Demonstration capability will be in place by August 1 with final implementation by September 30.
  3. Y-12 will acquire and test for implementation a new VTC capability produced by Vidyo, Inc. ([www.vidyo.com](http://www.vidyo.com)) which uses the slogan, "HD video conferencing without boundaries." Utilizing FIPS-certified encryption, and intra-Y-12 servers, this approach should allow more flexibility with mobile VTC needs at the same Unclassified Controlled Information (UCI) level as the internal unclassified network. Vidyo is the first software-based, telepresence-quality desktop video conferencing solution to be JITC certified. A working prototype will be in place by July 23. A determination of usefulness will be made by September 30.
  4. Y-12 will complete all cyber security paperwork for release of Good Technologies' Good for Government product for iOS systems (i.e., Apple products) by June 30. Within 30 days of NNSA-YSO approval, Y-12 will have no less than fifty (50) Government Furnished Equipment (GFE) tablet computers assigned to staff and functioning in test mode. Implementation of Good for Government on Personal Electronic Devices (PEDs) will occur no more than 30 days after NNSA-YSO approval for deviations pertaining to full disk encryption, and cost recovery for users. By agreement, all security paperwork will be provided to Pantex which will negate their need to duplicate the analyses supporting their security documentation. Using the same configuration also allows implementation or mirror environments at the two sites.
  5. Lync federation with HQ by September 30.
    - i. Y-12 completed two project plans June 30, 2012, for testing and implementing new video teleconferencing: Vidyo for high-definition (HD) videoconferencing utilizing FIPS-certified encryption and Polycom CX5000 (IP VTC).
    - ii. Five of the Polycom CX5000 systems were purchased, and the first one was demonstrated to NPO on August 1, 2012, and subsequently deployed to them. The four remaining Polycom CX5000 systems were deployed to 9103, 9117, 602SCA, and Jack Case Center, before September 30, 2012.
    - iii. The Vidyo system was purchased and demonstrated on July 23, 2012. It is under functionality evaluation and subsequent proof-of-concept deployment.

- iv. The Good for Government product was approved for production deployment. Y-12 completed Good Technologies cyber-security documentation, and application accreditation was approved June 28, 2012, with NPO concurrence on July 18, 2012.
- v. The active federation with NNSA Headquarters is ongoing and pending completion of NNSA's 2NV Initiative. The Interconnection Security Agreement (a Headquarters requirement) was submitted to Headquarters for their signature. In addition, the memorandum of agreement (another Headquarters requirement) is being submitted. Once approved by Headquarters and signed by both parties, the technical implementation will commence. The target date September 30, was not met and was contingent on Headquarters approval and technical implementation support.

Milestones dependent upon the Managing and Operating Contractor were completed.

## **B. Property and Fleet Management**

### **Performance Measure 1: Extension of Radio Frequency Identification (RFID).**

#### **Performance Target:**

- a. Extend "Proof of Concept" for RFID for Receiving and Delivery to a second vendor (Kelsan).

The RFID concept was successfully extended to the second AVID vendor, Kelsan. Approximately 1000 POs have been received to date from Kelsan without incident. Y-12 FI&S, Plant Services/Materials Management, will now be working toward refining the process and seek opportunities for ways to implement it across the entire AVID receiving process as well as being able to apply this technology to the delivery function of the Y12 supply chain.

### **Performance Measure 2: Pick up of FY 2012 excess materials.**

#### **Performance Target:**

- a. Pick up an average of 400 items each month of FY 2012 excess materials that are available for pick up. Provide monthly status and progress.

In FY12, 99.1% legacy excess items were picked up with only 9 legacy items remaining open for Rad Con survey.

### **Performance Measure 3: Acquire the programming necessary to facilitate the scanning of excess CPU's into 9737 for tracking purposes.**

#### **Performance Target:**

- a. Programming completed and in production by March 29, 2012.

Y-12 successfully completed programming to enable scanning CPUs in and out of Building 9737 on March 8, 2012.

## **C. Process and Productivity Improvements**

### **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 \$10M in efficiencies and cost avoidance realized from productivity initiatives and Y- 12 site-wide productivity improvement efforts (total of \$50M).
- b. Reapply efficiencies to accomplish \$23.4M of work not otherwise funded. This includes a challenge scope valued at \$18.4M (defined by the FY-12 PPLs but not fully funded by the Y-12 FY-12 budget) and absorbing \$5M in additional costs from pension contribution (\$3.8M), and Legacy Workers' Compensation (\$1.2M).

Target was met. B&W Y-12 validated 389 productivity initiatives totaling approximately \$63.6M which included cost efficiencies, cost avoidances, and hard savings unrelated to FBLR costs. During the course of the year B&W continually demonstrated excellent performance implementing the P&PI program. A persistent flow of continuous improvement initiatives were implemented & validated throughout the year.

NPO Y-12 validated 19 of the above initiatives for a total of \$28M during FY12. This equated to 44% of the total dollar cost savings reported by the contractor.

**Performance Measure 2: Demonstrate fiscal responsibility through the generation of a Management Reserve that can be used to fund specific projects or initiatives.**

**Performance Target:**

- a. Attain savings of a minimum of \$22.4M realized from changes that will be applied as agreed to by YSO.

Target was met. Actual total of \$22.6M in savings was generated to fund additional work scope as agreed to by NPO Y-12.

- b. Propose additional critical scope and ROI-based projects to be approved by YSO; initiate work as additional funding becomes available during FY-12, or define carryover scope that will be applied in FY-13.

The available funding from (a.) above was used for proposing critical scope projects for NPO Y-12's approval. A total of \$4.8M was accomplished in additional project work during FY2012. The remainder of the funding will be prioritized during FY2013 as approved by NNSA

**D. Procurement and Contract Management**

**Performance Measure 1: Increase SCMC utilization.**

**Performance Target:**

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

Stretch Goals

Combined spend = \$80M

Common Catalog usage 5500

B&W Y-12 Procurement did an excellent job performing stretch goals as indicated below.

Stretch Goals	Actual Performance
Combined spend = \$80M	\$100.5M
Common Catalog Usage = 5,500 orders	7,652 orders

**Performance Measure 2: Increase the number of Organizational level procedures available on the central Management Requirements Web Page.**

**Performance Target:**

- a. Increase the number of Organizational level procedures available on the central Management Requirements Web Page from 1,400 to 2,000 by adding additional organizations to the Site-wide procedures and those of the Production Division.

B&W Y-12 Contract Management increased the number of these procedures on the Web from 1,400 to 2,700 procedures, an increase of 1,300 procedures.

**E. Contractor Assurance**

**Performance Measure 1:** Manage and execute contractor assurance improvement to retain historical metrics.

**Performance Target:**

- a. Performance Track upgrades were rolled-out on December 8, 2011. This included enhancements to the metrics page to view previous month's data, key performance indicators, and alignment with new PEP elements that are Pass/Fail.

**Performance Measure 2:** Enhance assessment scheduling for YSO shadowing.

**Performance Target:**

- a. Improve the assessment schedules, viewable through Performance Track to allow editing to enable a scheduled assessment to be "flagged" if YSO expresses interest in shadowing the performance of the assessment.

Performance this fiscal year in Contractor Assurance was not indicative of the performance target being met.

**F. General Management: Governance and Transformation**

**Performance Measure 1: Continue to improve the Y-12 efficiency through the implementation of Governance Transformation principles defined in NAP-21.**

**Performance Target:**

- a. Complete the Y-12 implementation of Governance as defined in the "Y-12 National Security Complex Implementation for Governance Transformation" Revision 2.0, dated April 20, 2011, and the associated schedule.

While many individual measures were met, the overall implementation of CAS fell short as demonstrated by the failures in Lockout/Tagout and the Security event. B&W's CAS Effectiveness Review resulted in a similar conclusion.

**G. Human Resources**

**Performance Measure 1: Effect changes to the Pension and Benefit plans to improve alignment to the BenVal and render hard savings to the government.**

**Performance Targets:**

- a. Identify FY 2012 changes, provide a summary report to YSO by 5/15/12, and implement changes as defined in the summary report by 5/30/12.
- b. Identify FY 2013 changes, provide a summary report to YSO by 7/31/12.

Contractor Human Resources (CHR) timely met the performance targets reflected above. Specifically, CHR provided a summary report highlighting FY 2012 identified and implemented changes such as closure of the defined benefit plan and elimination of the retiree medical provisions and reduced, paid-up provision of Group Life Insurance Plan for all salaried new hires. Additionally, CHR redefined personal leave as well as identified proposed changes for FY 2013 in the summary report.

**H. Internal Controls**

**Performance Measure 1: Time efficiencies gained are utilized for subcontract audit efforts.**

**Performance Target:**

- a. Time efficiencies gained in the completion of audits scheduled in the Fiscal Year 2012 Internal Audit Plan will allow for additional audit support in the area of subcontract auditing. Specifically, four (4) field and/or desktop audits will be completed after a Subcontract Audit Risk Assessment is completed, which is scheduled for the first quarter of FY 2012.

IA completed 4 additional subcontract audits successfully completing the PEP stretch goal. Specifically, IA utilized time efficiencies gained in the completion of planned FY 2012 internal audits to accomplish this goal.

## ESSENTIAL PERFORMANCE BASED INCENTIVES

### I. Program

#### A. W76-1 LEP Production

1. Complete xxx each WR Boat assembly units on at least a 90-day lead to the PCD in effect on October 1, 2011 (2011-A-PUB, dated 07/06/11)
2. Complete one each Shelf Life canned subassembly
3. Complete recertification of xxx sets of WR case parts on at least a 90-day lead to the PCD, in effect on October 1, 2011 (2011-A-PUB, dated 07/06/11)

All activities successfully completed.

#### B. Dismantlement and Disposition

1. Complete the dismantlement of xxx B61 units – Completed.
2. Complete the dismantlement of xxx B53 units - Completed 109% of baseline.
3. Complete the dismantlement of xxx B83 units – Completed.
4. Complete the disposition of 8000 ft3 of weapon components off-site - Completed 107% of baseline.
5. Complete rapid tear-down on (2) W84 units – Completed.
6. Complete the dismantlement of xx B53 pits – Completed.
7. Complete the dismantlement of xx stretch W69 units – Completed.

### C. Stockpile Systems

B61 JTA Fwd Caps  
W76-1 JTA-2  
W78 JTA-6  
WW88 JTA-1,2,3,4  
Specified quality evaluation activities

All activities successfully completed.

### D. Nuclear Material Disposition and Supply - This PBI was successfully completed.

Performance Measure 1.a: “By 09/30/12, ship 175 containers of process solids.”

This PBI measure was fully satisfied on schedule and within cost. Y-12 packed and shipped the 178 containers of legacy process solids. The process solids are considered “legacy” and were primarily removed from Building 9212 and discarded.

Performance Measure 1b: “Process and ship 130 cans slag and liner to NNSS by 9/30/12.”

The PBI measure was fully satisfied, completed on schedule and within cost. Y-12 discarded 132 cans slag and liner. The material was processed, packed and shipped to NNSS.

Performance Measure 1c: “Package and ship for offsite disposal 25 drums legacy miscellaneous materials (filters, combustibles, or asbestos), by 9/30/2012.”

The PBI measure was fully satisfied, completed on schedule and within cost. Y-12 disposed 27 drums. The material included legacy filters, combustibles, or asbestos generated at Y-12 for which new EDLs were approved a few years ago, scattered throughout storage areas at Y-12, and heavy in U. Disposal requires extra handling and sorting of the material, broking apart, cleaning and placed into the shipping containers and prepped for shipment.

Performance Measure 1d: “Repack and Ship all DU Skull Oxide Currently Stored in Building 9206.”

The PBI measure was fully satisfied, completed on schedule and within cost. All DU skull oxides were removed from Building 9206 as required by this PBI measure.

Performance Measure 1e: “Characterize and consolidate HEU metal and/or oxide in support of Area 5 De-inventory.”

The PBI measure was fully satisfied, completed on schedule and within cost. In support of Area 5 De-inventory, 392 metal items and 15 cans of oxides were transferred from interim storage locations within 9212 Special Processing, Chemical Recovery, and Metal Production, to the 9212 processing area where the material was characterized, containerized, and/or consolidated by size reduction (breaking or melting if metal) for transfer to long term storage.

Performance Measure 1f: “Ship 40 Drums of U-Zr Off-Site to the NNSA Commercial Processing Contractor.”

The PBI measure was fully satisfied, completed on schedule and within cost. Y-12 moved materials to the Building 9212 Special Processing Area and packed and shipped 55 drums off-site to the NNSA commercial recovery contractor, B&W Nuclear Operations Group, in Lynchburg, VA. The work is highly difficult because the material to be shipped is considered legacy U-Zr scrap of various forms, stored in shipping containers no longer certified, received at Y-12 decades ago, and documentation requirements for shipments at the time materials were received are not as rigorous as today’s requirements leaving gaps in documentation to detail full content of packages prior to opening the containers for repackaging in 9212. The packages were transferred, opened, inspected, characterized, packed into primary shipping containers and shipping package (ES-3100s or Type A). The work required extensive coordination with MC&A, criticality safety, facility safety, transportation, and the receiving commercial facility.

Performance Measure 1h: “Remove from 9215/9998 65 Drums of CAT IV EU Materials and from 9204-2 60 Drums of CAT TV EU Materials”

The PBI measure was fully satisfied, completed on schedule and within cost. Y-12 identified and selected all the Category IV-D, IV-E and T materials that did not have an assigned or near term disposition project and met the criteria of the 9720-5 warehouse. Y-12 removed over 140 drums from these areas exceeding the milestone: 76 removed from 9998, and 65 from Beta-2. Over 150 relocated to 9720-5 to support the consolidation of materials that do not require MAA protection to the 9720-5.

Performance Measure 1i: “Over-pack 250 Items Currently in Storage in Wooden Boxes in Building 9720-5”

The PBI measure was fully satisfied, completed on schedule and within cost. Y-12 over-packed into metal storage containers 250 wooden boxes. The work supports commitments made in the Y-12 nuclear material non-MAA consolidation plan and reduces the combustible loading in the Building 9720-5 warehouse.

Performance Measure 2a: “Dispose 12 shipments of Classified Items by 9/30/12”

The PBI measure was fully satisfied, completed on schedule and within cost. There were 13 shipments completed, including 6 fully loaded shipments of classified items disposed at NNSS and 7 fully loaded shipments of classified items disposed at the Environmental Management Waste Management Facility disposal area adjacent to Y-12 (between 10/2011 through 7/2012), removed from 9720-22, 9720-24, and 9720-33.



## **E. DER/ER Project Maturation**

Complete first run of Direct Electrolytic reduction (DER) cell processing oxide to impure uranium metal by April 30, 2012.

The first DER run was completed on April 18. Evidence that was reviewed included oxide loading, cell operation parameters and visual inspection of the DEER cell which confirmed metal deposited in the cathode basket.

## **F. Complementary Work for Others**

Receive a total of \$38 million in new Budget Authority for CWFO mission areas by September 30, 2012.

\$38.1M was received in new BA for CWFO.

## **II. Operations**

### **A. Disposition Excess Waste**

- 1) Disposition 100% of the excess Development Chemicals as identified on the UMC inventory established September 2006.
- 2) Disposition of 2 of the 6 remaining midsize boxes by September 30, 2012.

B&W met the performance goal of dispositioning 2 low level waste mid-size boxes with highly enriched uranium (HEU) and the remainder of the excess chemicals in the Development facility. For the 2 mid-size LLW boxes, a Rubb tent near 9206 was upgraded to accommodate the opening and processing of these boxes. Likewise, modifications to the 9206 safety basis documentation were required. This effort was challenging and B&W performed well in meeting this PBI.

### **B. Line Item Milestones**

#### Nuclear Facility Risk Reduction Project (NFRR) -

1. NFRR a. -Complete installation of Transformer 221 by September 16, 2012. Status: Timely completed on August 18, 2012 and all fee awarded.
2. NFRR b. - Complete installation of switchgear breakers for Switchgear 221 and 308 by September 16, 2012. Status: Timely completed on August 18, 2012 and all fee awarded.
3. NFRR c. -Complete installation of the Casting Furnace Vacuum System Pumps by January 31, 2012. Status: This milestone was complete on January 30, 2012 and all fee awarded.
4. NFRR d. – Demolish Stack 110 Probe House by August 31, 2012. Status: Timely completion and all fee awarded.

#### Security Improvements Project (SIP) –

II.B. Meet the Level 2 milestone for "Argus Approval to Operate (Alarm)" by the Project baseline date of February 7, 2012. Status: Performance this fiscal year for SIP is not indicative of the performance target being met.

### **C. UPF**

A series of performance-based incentives were established for maturing the design and completing specific design deliverables – either issuing them as “for use as final design” or issuing them “for construction.” B&W met the delivery date for all design-completion based milestones with exception of completing 90-percent of the overall design by September 2012. The individual design packages were generally evaluated to be quality deliverables. That said, the design-completion based deliverables represent, by B&W’s own analysis, an average of over 60-percent breakage. Each of their requests for “earning fee” on these design-

completion based deliverables were denied, given the significant structural and interstitial equipment reconfigurations required to accommodate our essential processing capabilities.

#### **D. Purified Metal Production**

This PBI was successfully completed.

#### **E. GSP Implementation Upgrades**

Based on the security event of 28 July 2012 and follow-on reviews and the NPO issuing of a “Show/Cause” letter regarding B&W performance, the security related PBIs [Entry Equipment-\$240K, NightStalkerIR Deployment-\$76.8K, and NightStalkerIR Network-\$76.8K] are held in abeyance for FY 2012, with final determination of “no payment” a possible result.

#### **F. Energy Efficiency Improvements**

1. By August 15, 2012, replace air handling units AC-0045 and AC-0046 in accordance with manufacturing recommendations in Building 9201-3.
2. By August 15, 2012, complete PAM analyses on AC-0045 and AC-0046 and implement recommendations.
3. By September 15, 2012:
  - Complete retro-commissioning study on Building 9113.
  - Install hands-free low-flow faucets in restrooms in Building 9113.
4. By September 15, 2012:
  - Complete retro-commissioning study on Building 9119.
  - Install hands-free low-flow faucets in restrooms in Building 9119

Air Handling Units have been installed and PAM analyses complete for both units. NPO performed a validation of work completed. Initial validation showed maintenance items from PAMs analysis not entered into SAP. Contractor corrected these issues & PBI was paid in full.

All hands-free restroom faucets were installed in each building. NPO conducted a walk down that verified faucets were installed and operational. PBI was paid in full.

#### **G. Space Utilization Improvements**

The performance measures for this PBI were met and completed successfully.

#### **H. 9206 Facility Status Change**

Deleted.

#### **I. System Health Monitoring**

All performance milestones were met for this PBI. The effort was a success and can be expanded to other systems, pending adequate funding, in the future. The five pilot systems are:

- 9204-2E Kathabar Systems
- 9204-2E Electrical Distribution System 814 (feeds CAAS, BA, Kathabars)
- 9204-2E Environmental Room (Dry Room)
- 9204-2E GB04 (Integrated Glovebox System)
- 9212 Denitrator

**J. Fleet Reduction**

1. Implement and Operate the Taxi Service as a Pilot Program to assist in the reduction of vehicles within Y-12 fleet until April 9, 2012.
2. Provide an analysis study on the feasibility of the Taxi Service by May 7, 2012.

On March 5, 2012, Y-12 implemented a new taxi service to provide an alternative source of transportation to the Y-12 community. The Dispatchers Log has been documented and a hard copy was provided to the YSO Fleet Manager that confirms the Y-12 Taxi service has been in operation from 3-5-12 to 4-9-12. This documented Dispatcher's Log satisfies the requirements of performance measure number 1.

**STRETCH PERFORMANCE BASED INCENTIVES**

**II. Operations**

The Gateway was not met for this category.