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## **CERTIFIED MAIL – RESTRICTED DELIVERY – RETURN RECEIPT REQUESTED**

This is in final response to your Freedom of Information Act (FOIA) request dated January 26, 2007, for "a copy of the most recent two annual performance reviews for Pantex Site, Kansas City Site, Sandia Site, Los Alamos Site, Y-12 Site and Livermore Site."

I contacted the Site Offices who have oversight responsibility for the records you requested, and they are enclosed. Please note that information has been removed from portions of these documents, pursuant to Exemption 2, United States Code, Section 551(b)(2) (Exemption 2 of the FOIA).

Exemption 2 of the FOIA protects information "related solely to the internal personnel rules and practices of an agency." The courts have interpreted the exemption to encompass two distinct categories of information: 1) internal matters of a relatively trivial nature, often referred to as "low 2" information; and 2) more substantial internal matters, such as critical infrastructure information, the disclosure of which would risk either circumvention of a legal requirement or disruption of a critical operation/activity—often referred to as "high 2" information. As described below, portions of the document are being withheld pursuant to Exemption "high 2."

The Exemption 2 information that was deleted from these documents pertains to infrastructure information. It is believed that if any of the information described above was released, it could benefit adversaries by helping them identify possible program impacts and vulnerabilities, as well as provide them the opportunity to target these facilities. This information is predominantly internal and has not been released to the public. Disclosure of this information could possibly expose this department, as well as other departments/organizations, to a "significant risk of circumvention of agency regulations or statutes."

The Department of Energy (DOE) regulations provide that documents exempt from mandatory disclosure under the FOIA shall be released regardless of their exempt status, unless the DOE determines that disclosure is contrary to public interest. For the reasons described above, I have determined that release of the information described above is not in the public interest. Pursuant to 10 CFR, Section 1004.7(b)(2), Ms. Tracy Loughead is the individual responsible for the withholding of information pursuant to Exemption 2 of the FOIA.

Pursuant to 10 CFR, Section 1004.8, the denial of a FOIA request may be appealed, in writing, within 30 days after receipt of a letter denying any portion of the request, to the Director, Office of Hearings and Appeals, Department of Energy, 1000 Independence Avenue, SW, Washington, DC 20585. The written appeal, including envelope, must clearly indicate that a Freedom of Information appeal is being made, and the appeal must contain all other elements required by 10 CFR, Section 1004.8. Judicial review will thereafter be available to you in the District of Columbia or in the district where: (1) you reside, (2) you have your principal place of business, or (3) the Department's records are situated.

There are no fees chargeable to you.

If you have any questions, please contact Ms. Shirley L. Peterson by telephone at (505) 845-6393, by email at <u>speterson@doeal.gov</u>, or write to the address on the first page. Please reference Control Number FOIA 07-024-P in your communication.

Sincerely, Carolyn A. Begknell

Freedom of Information Act Officer Office of Public Affairs

Tracy Loughead Manager Office of Public Affairs Denying Official

Enclosures



# **DEPARTMENT OF ENERGY**

# NATIONAL NUCLEAR SECURITY ADMINISTRATION

# PERFORMANCE EVALUATION REPORT for BWXT Y-12, L.L.C.

Contract No. DE-AC05-000R22800

Evaluation Period: October 1, 2004, through September 30, 2005

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The purpose of this Performance Evaluation Report is to provide a final report of the National Nuclear Security Administration (NNSA) evaluation of BWXT Y-12 performance for the period October 1, 2004, through September 30, 2005. 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 two components, the Award Fee Incentives and Performance-Based Incentives (PBIs), with the final fee distributed 61%/39%, respectively.

The Award Fee Incentives contains 5 major performance objectives; General Management; Technical and Environment, Safety, and Health; Operations; Program and Project; and Safeguards and Security. The Y-12 Site Office (YSO) met monthly with BWXT 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., General Management) and the topical areas (e.g. Critical Skills) contained within each Performance Objective. Additional details supporting this report are contained in documented performance evaluation reports provided to BWXT Y-12.

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.

The first section of this report presents the evaluation of performance against the Award Fee Incentives. This section is divided into the five performance objectives (General Management, Technical and Environment, Safety and Health, Operations, Program and Project, and Safeguards and Security). Under each performance objective, the individual topical areas that comprise each objective are listed, and ratings are provided. The second section of this report presents the results of the PBI evaluation.

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

## I. GENERAL MANAGEMENT

The General Management Performance Objective included the following topical areas: Critical Skills; Fiscal Management/Budget; Contractor Human Resource Management; Integrated Safety Management Implementation; Procurement Management; and Contractor Assurance. In Critical Skills, BWXT Y-12 has exceeded its goals for college, co-operative, and intern recruiting. Fiscal Management and Budget is outstanding based on BWXT Y-12's efforts on numerous ad hoc budget exercises, execution of work against the approved financial plan, initiatives to comply with OMB 123 circular, support in implementing STARS, and publication of corporate funding and charging guidance for over 100 tasks in volved in startup and readiness. Contractor Human Resources has made significant progress in reducing under representations for minorities and women, has an excellent on-line employee communication tool entitled "No More Surprises," and is working to reduce bargaining union grievances. The observed performance indicates the mechanisms for ISMS implementation are in place and the aggregate evaluation of review results continues to show that ISMS is routinely implemented in accordance with requirements. Sustained long term improvements in the stated ISM performance indicators, continued emphasis on ISMS including the Feedback and Improvement Working Group, effective use of various feedback mechanisms for continuous ISMS improvement, and results from the OA-10 and OA-40 reviews support the overall performance rating. Ensuring the proper execution of activity level hazard analysis and control requirements remains an area requiring additional focused management attention. Procurement Management continues to earn BWXT Y-12 numerous awards for its development, nurturing, and awards to small business with excellent achievement of small business goals.

The remainder of this section provides more specific information on each of the General Management topical areas.

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#### **Critical Skills**

Overall performance in the Critical Skills functional area was outstanding.

The objective of the Critical Skills program is to ensure that the critical skills needed to support the Y-12 workload are available and fully trained to perform duties as required in the future. The critical skills program is integral to support of Y-12 missions. The performance targets for this program were met. BWXT has exceeded their goals for college, co-op, and intern recruiting. The latter two continue to provide a feeder pool for the college recruiting. Experienced new hires exceed experienced terminations, but the retention of experienced critical skills is one area in which BWXT could improve.

The Critical Skills program addresses the effort to revitalize the Y-12 National Security Complex (Y-12) workforce by resolving critical skills needs. The effort to recruit critical skills into Y-12 includes hiring of new college graduates, hiring of experienced critical skills candidates, and revitalizing the co-op program. The effort to develop and retain individuals in critical skills positions includes a mentoring program for new college graduates, educational assistance, and a job rotation program. A database of critical skills positions exists and will be kept updated in order to determine the critical skills positions that are staffed below the minimum number required (critical skills vacancies).

# Fiscal Management/Budget

Overall performance in the Fiscal Management/Budget functional area was outstanding.

The objective of the Fiscal Management/Budget area is to execute agreed upon work scope within the fiscal and definitional constraints of its approved financial plan.

Adherence to obligational control levels continues to be excellent and response to budget formulation requirements was generally timely. Analysis and documentation of appropriate charging practices, justification of proposed funding strategies, and effective rate management are noteworthy accomplishments.

The nature of the budget function produces numerous ad hoc requests which have a quick turn around time. BWXT continues to respond well to these requests. The BWXT support of STARS, the new DOE financial system, and their preparation for the new cost model implementation in FY 2006 is noted.

A major accomplishment was observed during the fiscal year with the publication and procedural adoption of appropriate funding/charging for startup and readiness activities. This corporate recommendation addressed approximately 120 different types of cost and determined where funds should be budgeted and costed for these tasks. Funding strategies for high priority projects, like QE relocation, were well addressed. A white paper on financial questions and proposed justification for this project was well done and allowed the project to proceed under funding recommendations made by BWXT Y-12.

While EAC accuracy and credibility is noted as a concern, it is recognized that this is largely outside the bounds of the fiscal management area. BWXT Y-12 investigated a YSO noted concern regarding estimates at completion. The results of BWXT Y-12's investigation acknowledged both a generic and specific problem with reported EAC's. BWXT Y-12 has instituted and reemphasized requirements for valid estimates at completion.

BWXT Y-12 has taken a very proactive approach to OMB A-123, the federal equivalent of Sarbanes-Oaxley legislation for private companies. It has participated in DOE wide informational meetings and benchmarking with other sites as well as providing its staff with special training.

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## **Contractor Human Resources**

Overall performance in the Contractor Human Resources functional area was good.

The objective of the Contractor Human Resources program is to create an environment that assures the existence of a flexible, motivated, and diverse work force that possesses the knowledge, skills and abilities to effectively accomplish DOE contract work.

This evaluation addresses collaborative working environments between bargaining units and management, fostering better employee relations in voicing concerns, increasing under representations of women and minorities, and promoting diversity,

BWXT's No More Surprises program provides a forum for employees to voice Plant wide concerns without fear of retaliation because cases can be filed anonymously. The program receives significant incredible attention from the Plant-wide population and management's response to complaints filed is equally excellent. The No More Surprises Program is working efficiently and effectively and is outstanding.

The EEO/Concerns Office has also done an excellent job managing EEO/AA and diversity issues at the Y-12 Plant. By hosting a monthly meeting with Division Directors to discuss underutilization at Y-12, they have brought attention to the need to eliminate underutilization of women and minorities at Y-12 by involving themselves in the recruiting process. This is a noteworthy accomplishment that has resulted in significant accomplishments for BWXT.

BWXT has initiated weekly meetings to improve and open up lines of communication between the two organizations. However, a level of mistrust continues to exist between the union and management resulting in and grievances continuing to be filed at a very high level. The Human Resources Manager and Labor Relations Manager and staff have done a good job of meeting with the union to attempt to knock down the barriers that will lead to a more cooperative working relationship.

## Integrated Safety Management Implementation

Overall performance in the Integrated Safety Management System (ISMS) functional area was outstanding.

The objective of the Y-12 ISMS is to be managed and implemented in accordance with the requirements of the applicable DOE 450 series directives and the Y15-635PD, BWXT Y-12 Integrated Safety Management System and Y15-636, Integrated Safety Management Program procedures.

The observed performance indicates the mechanisms for ISMS implementation are in place and the aggregate evaluation of review results continues to show that ISMS is routinely implemented in accordance with requirements. Throughout the year, there have been no significant deficiencies identified with the ISMS program. Sustained long term improvements in the stated ISM performance indicators, continued emphasis on ISMS including the Feedback and Improvement Working Group, effective use of various feedback mechanisms for continuous ISMS improvement, and results from the 0A-10 and OA-40 reviews support the overall performance rating. Ensuring the proper execution of activity level hazard analysis and control requirements remains an area requiring additional focused management attention. Management sustained a high level of support for this program as evidenced by: the utilization of the Management of EMS and ISSM with ISMS. Continued senior rmanagement support for ISMS and improvements in the activity level hazard analysis and control must be rmaintained for this overall performance rating to continue.

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#### **Procurement Management**

Overall performance in the Procurement Management functional area was outstanding.

The objective of the Procurement Management program is to support the NNSA HQ initiative to provide increased opportunities and awards to small busin esses. The NNSA has directed that an Objectives Matrix will be used as a performance indicator for M&O contractors rather than the previous Business Management Review process. BWXT Y-12 will continue to develop the Acquisition and Asset Management Objectives Matrix.

Actual Small Business subcontract awards for the fiscal year were excellent. The actual small business percentage for FY 2005 was 53.1% compared with the goal of 44%. The actual for the woman-owned business goal was 16.5% while the goal was 10.0%. BWXT Y-12 uses a procurement policy of "small business first" in making procurements. The application of this policy means that a procurement is expected to be awarded to small business unless it can be expressly proven by going to the market place that small business cannot meet the procurement.

BWXT Y-12 continues to support Supply Chain Management initiatives and company managers are dedicated to assuring that all purchases are made from a small business whenever possible.

Numerous Mentor/Protégé agreements were established by BWXT Y-12 with small businesses including 8A, minority owned, and woman owned. BWXT Y-12 was awarded several prestigious procurement awards for its accomplishments in small business development and procurements.

### **Contractor Assurance**

Overall performance in the Contractor Assurance functional area was good.

The objective of the Contractor Assurance System is to develop a program that is relied up on to ensure missions and functions are being properly executed in compliance with laws and the contract.

All milestones for this fiscal year were either completed ahead of schedule or on schedule. BWXT Division Managers issued letters to the BWXT President certifying compliance by September 26, 2005. YSO received certification from BWXT certifying implementation of the CAS system on September 29, 2005.

YSO review of BWXT metrics found the metrics to be complete and accurately reflected BWXT's performance in the functional areas reviewed by YSO.

## II. TECHNICAL AND ENVIRONMENT, SAFETY, AND HEALTH

The Technical Services area included the following topical areas: Engineering; Authorization Basis; Nuclear Criticality Safety; Emergency Management; Radiation Protection; Fire Protection;; Environmental and Waste Management; Packaging and Transportation; and Worker Protection (consisting of Industrial Safety Chemical Safety; and Industrial Hygiene and Occupational Medicine.)

Good progress was made in Engineering as safety system phase II evaluations continued for DNFSB recommendation 2000-2, Vital Safety Systems, including the completion of some safety system design descriptions, and periodic walkdown of all Vital Safety Systems. Performance improvements in executing engineering requirements and providing support to operations was observed as a result of management's focused attention.

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The safety basis program performance was mixed. The site confirmed the implementation of safety basis documents approved under the 10CFR830, Safety Basis, rule through the conduct of **implementation** reviews. An enhanced knowledge of safety basis requirements was achieved for acility operators and resulted in a significant reduction in the number of operating safety violations. Approval of the remaining safety basis document (Enriched Uranium Operations) was delayed as the document was not kept current as field changes were continuing to be processed. Performance improvements related to the Unreviewed Safety Question process were also noted.

Notable accomplishments in criticality safety were: avoiding repeat deficiencies and closeout of longstanding and difficult deficiencies, new CAAS analysis documents reducing the **amount** and number of controlled areas, maintaining staffing expertise and management, and good support to operations. Notwithstanding these successes, there were challenges that occurred. Effective control of fissile material shipments between facilities exposed basic conduct of operations failures that necess **i** tated correspondence from the site office.

Notable accomplishments in the Emergency Management Program include the update, reduction and better strategy for hazards surveys, assessments, and Y-12 Emergency implementing documents, implementation of an improved EMInS II information management system, and sustained support and leadership of the complex's Emergency Management Issues Special Interest Group (EMI SIG) Challenges remain in this functional area, especially in maintenance and transition of the existing infrastructure assets such as K-1650 and meteorological data acquisition equipment. However, BWXT Y-12 continues to manage the Emergency Management Program by exhibiting a strong commitment to improving training, drills, and exercises; and in their efforts to promote a high quality DOE/NNSA Emergency Management System/Concept on a broad scale through the EMSIG.

The programmatic improvements funded by the Fire Protection Corrective Actim Plan (FCAP) continued to support improvements in the site's fire protection systems' material conditions and analysis documents. BWXT met its performance elements relative to sprinkler modification, pre-fireplans, fire protection engineering analyses, and fire protection barriers. Reductions in fire protection system maintenance backlogs were similarly achieved.

BWXT Y-12 performed its activities in accordance with radiological protection regulations and continued to show good implementation results as demonstrated by dramatically reduced reportable contamination events as compared to recent history. Achievements included the DOE laboratory re-accreditation for invitro Bioassay, assay equipment upgrades, enhanced training for radiological controls technicians, strong self-assessment and improvement, support for plant and facility events to ensure proper radiation protection, and excellent reaction to anomalous conditions minimizing the spread of contamination.

Key positives for Environment and Waste Management include the negotiations with TDEC on the new NPDES permit, the timely issuance of environmental compliance reports, issuance of the Covenant Deferral Request supporting the approval of alternatively financed replacement facilities, admirable pollution prevention program performance and recognition, and excellent public outreach efforts. Performance issues were noted during two spill events that indicate a sharpening of preventative actions is needed. The timely and compliant management of LLW remains an issue of concern with YSO.

The Packaging and Transportation Program continues to perform in an Outstanding manner, including meeting all regulatory requirements. and having no violations.

Continued strong performance is noted in the area of industrial safety. BWXT was proactive in response to safety alerts, sought lessons from the experiences at other sites, and utilized data from the Behavior Based Safety initiative to target focus areas to improve at-risk behaviors. The safety statistics, though, are of some concern and should continue to be monitored closely to determine what specific corrective actions are required. Continual improvements in work activity hazard assessment and control are necessary as noted in

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the electrical incident investigation, DNFSB interaction and the OA-40 assessment. In the area of Chemical Safety, progress has been made in the disposition of excess hazardous chemicals, and in the update, accuracy and availability of HMIS/MSDS information. Strong emphasis continued on improving the Beryllium program. BWXT demonstrated a "floor level" commitment in resolving issues; notably, in the machine shops and several other beryllium operational areas. Aggressive air and surface sampling were conducted to identify and control beryllium and a sbestos contaminates. Progress was made in scanning industrial hygiene records to include numerous boxes of legacy data into the plant records accountability and retrieval system and the medical staff worked congruently with Industrial Hygiene in developing an electronic reporting system, EMBOS, of worker hazards that will be used by staff to identify potential health concerns and respond to worker claim requests.

## Engineering

Overall performance in the Engineering functional area was good.

The objective of the Y-12 Engineering program is that it be managed and implemented in accordance with the requirements of DOE order 420.1 Facility Safety, applicable sections, Engineering S/RIDS, and the Y-17 series procedures.

BWXT Engineering has continued to carry out the corrective actions from previous years and to implement the Configuration Management improvement plan. A number of significant actions were completed this year which helped to institutionalize needed improvements and put in place the infrastructure for a robust configuration management (CM) program. These included revised BWXT procedures for CM processes; formal training programs for System Engineers; the institutionalization of the DNFSB 2000-2 assessments. and the use of the Engineering Feedback and Improvement Working Group to prioritize and track corrective actions. A number of both technical and management positions responsible for CM issues were filled. However, some problems continued to be experienced in the day-to-day execution of configuration management requirements. Several issues with the proper verification of design inputs occurred, both as legacies of past practices but also in new systems. Some design changes were not properly coordinated with the Safety Basis engineers. And changes to the Safety Basis affecting vital safety systems (VSS) were not passed to engineering. While System Engineering has achieved a mature configuration, some VSS system engineers continue to be assigned too many systems. Although the VSS walkdowns have been in place for two years, there are problems with the support by maintenance and operations in correcting nonsafety material deficiencies. To improve the rating, BWXT needs to better execute the design function with respect to verification of design inputs. In addition, the proposed shift in focus in the coming year to implementation of Conduct of Engineering as broader than configuration management has promise to improve the performance of the engineering function in some needed areas. The proposed expansion of the CM program to Safeguards and Security systems will also improve the plant performance in this area.

#### **Authorization Basis**

Overall performance in the Authorization Basis functional area was good.

The objective of the Y-12 Safety Basis Program is that it be managed and implemented in accordance with the requirements of 10 CFR 830, Subpart B, Safety Basis Requirements, applicable S/RIDs and the applicable management requirements.

BWXT continued to provide the safety basis documents supporting annual updates, changes to facilities, and to support the development, review, and approval of the 9212 SAR and TSR. Annual updates to safety basis documents were generally submitted on time and were adequate to be approved. The quality and technical adequacy of safety basis documents has improved. However, some submittals from the 9212 facility had technical issues requiring return and rework. The high change tempo is attributed to this drop in quality. Scheduled commitments to submitting the 9212 Safety Analysis Report and Technical Safety

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Requirements were not met. A gap analysis was deemed necessary for the 9212 SAR and TSR since the BWXT approved SAR and TSR were not initially included in the change control process. The gap analysis has since been incorporated into the proposed safety basis documents and will be submitted for approval next year. A Quality Evaluation Relocation PDSA was provided in a timely manner, and the BWXT was very responsive in addressing questions and comments during its development and approval. Actions needed to complete the milestone requirements of the Specific Administrative Controls (SACs) should be continued to be stressed by management. All of the safety basis documents containing the SACs have been approved (except for 9212). The challenge to complete implementation during this year was not met. These are now scheduled to be completed in the first quarter of FY 06. Performance in the USO area improved during the period. This was confirmed through procedure changes, improved training, and through the conduct of numerous assessments. The OA-40 review indicated that individual performance issues do remain in executing the USQ requirements including meeting the time expectations associated with potential inadequacies and USQ determination following from these. The process of developing chemically hazardous facility safety bases did mature through the year. BWXT Y-12 implemented an S/RIDs change to adopt specific contractor requirements for the analysis and control of nonradiological hazards throughout the site.

# Nuclear Criticality Safety

Overall performance in the Nuclear Criticality Safety functional area was good.

The objective of the Criticality Safety Program is that it be managed and implemented in accordance with sound safety practice as set forth in national expert consensus standards (ANSI/ANS-8 series) required by the DOE Order 420.1 Facility Safety and as specifically identified in applicable S/RIDs.

Notable accomplishments have been realized this year. BWXT has established meaningful quarterly NCS plant managers meetings and demonstrated visible management support for Criticality Safety Officer programs and improvement initiatives. The NCSAC has emerged as an improved driving force to curb repeat deficiencies and to close out longstanding and difficult deficiencies. BWXT maintained continuing support for the national DOE/ANS NCS community through leadership and participation and technical input into various conferences and workshops. CAAS analysis, program maturity - staffing expertise and management, support of SC state NE program, support of operations, identification of field NCS deficiencies and issues, etc. Notwithstanding these successes, there were challenges that occurred. Effective control of fissile material shipments between facilities exposed basic conduct of operations failures that necessitated correspondence from the site office. BWXT's response was swift and determined and resulted in a significant corrective action plan addressing effective immediate and longer termed actions. Some programmatic aspects remain of concern such as the failure to address casting analysis upgrades, deficiencies in temporary design change evaluations, and the lack of engagement from the plant nuclear criticality committee (PNC) on events. Events such as the identification of excessive quantities of fissile material holdup in abandoned out of service equipment and known significant fissile material holdup issues remain a concern and suggest the need for the PNC to be more active in correcting and preventing errant conditions across the site. Consistency and changes in fissile material limits continue to challenge effective and compliant fissile operations and recent events related to the failure to change out non-credited filters and the uranium holdup survey program indicate a potential weakness in the formality of some of the programs interface in maintaining disciplined control of fissile material.

## **Emergency Management**

Overall performance in the Emergency Management program was outstanding.

The objective of the Y-12 Emergency Management Program is to manage and implement a program in accordance with the requirements of DOE Order 151.1B, Comprehensive Emergency Management System, DOE Guide 151.1-1, as defined in the S/RIDS, and Y-40 series procedures.

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Major highlights are as follows:

- success ful conduct of emergency planning and preparedness activities to support restart of the Oxide Conversion Facility (OCF) and startup of the new Purification Facility (PPtF),
- development of an improved EMInS II in formation management system,
- support of the development and implementation of the Lead Federal Manager concept in the Oak Ridge Reservation,
- disciplined management of the Y-12 NSC EMP Technical Baseline Documents,
- maintenance and support of an aggressive drill and exercise program,
- strong commitment to work as a team and provide excellent Radiological Assistance Program support for intra and inter regional activities,
- assurance that program improvements are being identified and tracked to closure, and
- sustained support and leadership of the complex's Emergency Management Issues Special Interest Group (EMI SIG).

Challenges remain in this functional area, especially in maintenance of the existing in frastructure assets such as K-1650 and meteorological data acquisition equipment. However, BWXT Y-12 continues to manage the Emergency Management Program by exhibiting a strong commitment to improving training, drills, and exercises; and in their efforts to promote a high quality DOE/NNSA Emergency Management to System/Concept on a broad scale through the EMSIG.

## **Radiation Protection**

Overall performance in the Radiation Protection functional area was good.

The objective of the Y-12 Radiation Control Program is that it be managed and implemented in accordance with the requirements of 10 CFR 835, applicable S/RIDs and the BWXT Y-12 Radiological Protection Program.

BWXT Y-12 performs its activities in accordance with radiological protection regulations and continues to show good implementation results as demonstrated by dramatically reduced *reportable* contamination events as compared to recent history. Achievements include the DOE laboratory re-accreditation for invitro Bioassay, assay equipment upgrades, enhanced training for radiological controls technicians, strong self-assessment and improvement, supporting plant and facility events to ensure proper radiation protection, and excellent reaction to anomalous conditions minimizing the spread of contamination. The BWXT Y-12 Radiological Control Organization consistently performs actions that are beyond regulatory compliance. However, observed field activities have noted areas requiring improvement. Field corrections are necessary to maintain this level of performance.

#### **Fire Protection**

Overall performance in the Fire Protection functional area was good.

The objective of the Fire Protection Program is that it be managed and implemented in accordance with the requirements of DOE Order 420.1, Facility Safety, applicable S/RIDs and Y79-001INS, "Y-12 Fire Protection Program Manual."

The programmatic improvements funded by the FPCAP program continued to support improvements in the site's fire protection material conditions and analysis documents. BWXT met its performance elements relative to sprinkler modification, pre-fire plans, fire protection engineering analyses, and fire protection barriers. Reductions in maintenance backlogs were similarly achieved. In addition, the fire response



capability was routinely demonstrated through the conduct of training, drills and simulation. BWXT was responsive to a department wide effort in data collection and trending activities by providing resources and data input to further this action. Challenges remain in the following areas: continuing support for ongoing comprehensive corrective action plans, improving the quality of the fire hazard analysis process, full implementation of the fire barrier program, and noncompliance reporting procedures to facilitate lessons learned and quality improvements.

## Environmental and Waste Management

Overall performance for the environmental and waste management functional areas was good.

The objective of the environmental and waste man agement programs is that it be managed and implemented in accordance with applicable environmental laws, regulations, S/RIDs, and Y71-series procedures.

Key positives for FY 2005 include the negotiation s with TDEC on the new NPDES permit, the timely issuance of environmental compliance reports, issuance of the Covenant Deferral Request supporting the approval of alternatively financed replacement facilities, admirable pollution prevention program performance and recognition, and the excellent public outreach efforts. Performance issues were noted during two spill events that indicate a sharpening of preventative actions is needed. The timely and compliant management of LLW remains an issue of concern with YSO. While corrective actions have been developed and scheduled the involvement and encouragement required of the site office in this activity is considered excessive.

#### Packaging and Transportation Safety

Overall performance in the Packaging and Transportation (P&T) functional area was outstanding.

The objective of the Packaging and Transportation Program is that it be managed and implemented in accordance with the requirements of DOE O 460.1 A 460.1B, Packaging and Transportation Safety, DOE Order 461.1A Packaging and Transfer of Materials of National Security Interest, DOE Order 460.2, Departmental Materials Transportation and Packaging Management, DOE Order 440.2B, Aviation Management and Safety, applicable S/RIDs and applicable Y10 and Y73 series procedures.

P&T activities are conducted with a high regard for ES&H requirements. The contractor's transportation personnel are involved in day-to-day activities and have been instrumental in implementing and practicing the ISM policy and ensuring completion of mission commitments. The contractor had zero U.S. DOT reportable motor carrier accidents or hazardous materials incidents which continues excellent performance for approximately 13 years. There were no DOE P&T occurrences in FY2005.

#### Worker Protection

Overall performance in the Worker Protection Program functional area was outstanding.

The objective of the Industrial Safety Program, Chemical Safety, Industrial Hygiene and Occupational Medicine Programs is that it be managed and implemented in accordance with the requirements of DOE Order 440.1A, Worker Protection Management for DOE Federal and Contractor Employees, applicable S/RIDs and procedures (e.g., Y7 3-001PD, Industrial Safety Program, Y71-939GUD, Guidelines For Storing Hazardous Chemicals and Y71-937PD, Chemical Safety Management Program, Y73-200PD, Industrial Hygiene Program and Y78-001, Occupational Medicine Program).

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#### Industrial Safety

BWXT Y-12 continues to be proactive in response to safety alerts, seeks out lessons from the experience at other sites, and is utilizing data from the BBS to target focus areas to improve at-risk behaviors. The formation of a Seat Belt Working Group is a positive step towards reducing at-risk behaviors. The performance measures continue to be positive. The reactive assessment for the FIRP safety "pause" was well done and completed in a timely manner. The five occupational safety awards for Sa fety Performance awarded to Y-12 by the National Safety Council is external recognition that the additional safety measures being taken at Y-12 are being noticed nationwide. The BWXT safety staff was recognized by the YSO Deputy Site Manager for the impressive energy and commitment to safety exhibited by the staff during a visit to the HEUMF construction site. This commitment is also shown by the proactive approach to traffic safety and the assistance provided to DOE in mon itoring a DOE subcontractor job. The commitment to safety is exhibited by BWXT in the support provided to critical projects such as the OE Relocation. The safety statistics are of some concern and should continue to be monitored closely to determine what specific corrective action is required. Continual improvements in work activity hazard assessment and control are necessary as noted in the electrical incident investigation, DNFSB interaction, and the OA-40 assessment. Continued progress with Behavior Based Safety and the Voluntary Protection Program application is needed in the upcoming year.

#### Chemical Safety

BWXT-Y12 has made significant progress in reducing site legacy hazardous material inventories, consistently demonstrated success in ensuring that the HMIS/MSDS database is accessible throughout the Y-12 Complex, and strived to attain no releases of hazardous materials that could potentially result in immediate significant injury to the workers, the public and the environment. Additional effort has been directed towards replacing hazardous materials with less hazardous substitutes and the timely submission of quarterly chemical inventories. Chemical Response Operations Cards (CROCs) for each of the twelve most hazardous chemicals at Y-12 have been developed as aids for the Emergency Response Organization. Additionally, BWXT Y-12 has been working to implement a pilot chemical supermarket project utilizing radio frequency identification (RFID) technology to track and control inventories of certain chemical products. Considering all the aforementioned activities collectively, a great deal of progress has been made this performance period. BWXT- Y12 continues to experience some difficulty with quarterly inventory accuracy and hazardous material labeling as indicated in the site offices assessments. In addition, the classified portion of HMIS has remained to be han dled in an inconsistent manner throughout the site. To date, a classified system that parallels the unclassified system currently in use does not exist, so there is an incomplete picture of the classified hazardous chemical inventory for the site. This lack of classified hazardous material system continues to thwart chernical management at Y-12.

## Industrial Hygiene

Several positive IH accomplishments were noted in FY 2005. The annual submission of the CBDPP was properly worked with the site office and noted to be a well written and comprehensive manual that will continue to provide a high level of protection for beryllium workers.

### Exemption 2

Aggressive air and surface sampling was conducted to identify and control beryllium and asbestos contaminates. Industrial Hygiene reporting activities were conducted for approximately 36,397 industrial hygiene samples or measurements. In FY 2005, there were 10 samples that exceeded the 10 CFR 850 Action Level a substantial decrease from the 149 in FY 2004. Industrial Hygiene reporting activities for EEOICPA, FOIA and OWCP were initiated for approximately 1427 requests for occupational exposure histories. Strengthening of beryllium training programs were realized with module additions to the GET, development of an awareness level training for non-beryllium workers, and planning for combining current required awareness and procedure training. The Laser Safety Assessment conducted by YSO indicates a compliant program, though in need of some programmatic

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improvements to be corrected with the SRID addition in 9/05 of Z136.1 in total. The ergonomic program was recognized with a Certificate of Merit in June by the National Safety Council. An exceptional report was developed by Industrial Hygiene and Occupational Medicine to capture known and potential exposure data and histories which serves to provide information for worker health evaluations and support information request from worker claims and health studies. Progress was made in scanning industrial hygiene records to include 52 boxes of legacy data into the Plant Records accountability and retrieval system. In support of the beryllium program, the Analytical Chemistry Organization successfully achieved accreditation by the American Industrial Hygiene Association for sample analysis and expanded the accredited analysis to include beryllium, one of four in the nation. Overall FY 2005 was successful for the Industrial Hygiene Program. The notable exception was failure to receive approval from TDEC during their re-survey of 9/7/05 of the BWXT Y-12 Cross Connection Control Program.

## Occupational Medicine

The Occupational Medical Program met all performance targets with one exception during FY 2005. Four quarterly wellness seminars were conducted as a joint effort with the Oak Ridge Methodist Medical Center. Progress was made in the development of the EMBOS system with successful acquisition of FY 2006 funds for the finalization of this important record keeping and retrieval database/scanning system. Implementation is planned for early FY 2007 and will serve to increase efficiency and resolve a long standing noncompliance. The medical staff worked congruently with Industrial Hygiene in developing a notable electronic reporting system of worker hazards that will be used by staff to identify potential health concerns. Progress was not made in developing a cost/benefit analysis for a dynamic fitness testing, physical therapy and fitness center for inclusion in a reserved space of the planned construction of administrative facilities. Excellent effort was noted in the medical portion of the overall beryllium program to include the collecting of the BeLPT and counseling of BeS and CBD workers. The support by medical staff of the Beryllium Support Group continued to provide an avenue for worker concern and education. There remains the need to acquire new radiological equipment, preferably one that will interface with the developing EMBOS.

#### III. OPERATIONS

The Operations Performance Objective included the following topical areas: Conduct of Operations, Quality Assurance, Training and Qualifications, Maintenance, and Readiness.

Performance in the Conduct of Operations functional area continues to improve. Positive CONOPS indicators were noted across the Manufacturing organization in operator performance; improvements in the conduct of pre-shift and pre-job briefs; the identification of unusual conditions and properly stopping to correct these conditions. The number of safety basis violations was reduced by 65% of FY04 levels (20 down to 7). The timeliness in the convening of critiques also improved in FY05. However, the performance has been inconsistent. Continued and repetitive problems with procedures, equipment configuration control, and work control execution indicate an overall performance level that does not meet YSO expectations. Multiple events associated with work authorization, planning and control indicate a weakness in the overall control of facility operations. Overall procedural adherence problems indicate that greater rigor, understanding and accountability are required by management and personnel to ensure that equipment and work control and work execution is conducted in accordance with procedural requirements. More consistent performance and continued improvements in safety basis implementation; adherence to procedural requirements; equipment configuration control; and work authorization and control will be required to meet YSO expectations for satisfactory performance in Conduct of Operations.

Performance ratings in the functional areas of Performance Assurance and Quality Assurance improved throughout the year. There were no major QA performance issues affecting product quality, or safety that were identified by YSO in Fiscal Year 2005. BWXT has a strong and well-documented program which has been confirmed by several external assessments, particularly in the area of weapons quality, software

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quality, and welding. In particular, progress in welding experienced since QA was given responsibility for this function is being sustained and YSO has confidence that excellent performance will continue into FY 06. In addition, BWXT has improved in the areas of M&TE controls. Instances in which expired M&TE being used and/or improperly controlled have steadily decreased since FY 04. In the area of Performance Assurance, the results of YSO and external reviews which consistently highlighted thorough and technically-excellent management and independent assessments

The Training and Qualification functional area has achieved a level of maturity that is commensurate with a workable, adequate program, which will support both current and future missions and also support safe operations. The other element of a fully effective training program is the successful implementation of the program in the operating and support organizations. During FY05, the implementation of the program did not reach the level of success that the programmatic element achieved. Numerous implementation problems with the Industrial Hygiene Department Operations Training program were left unresolved, resulted in concern by YSO. Management attention must be maintained on both the programmatic and implementation elements to ensure a fully mature training program.

Performance in the Readiness functional area partially met expectations. The Contractor achieved several successful startups including Alternate Casting, Oxide Conversion Facility (OCF) and PPtF, all of which required NNSA authorization to startup. However, it is noted that the Contractor continues to struggle with identifying and planning for all startup/restart activities. Items have not always been identified on the Startup Notification Report (SNR) a year prior to the startup date, preoperational testing problems, some of which have been tied to equipment readiness problems have been noted and delays in startup activities continue to occur. Problems have been noted with the adequacy of ORR Implementation Plans and oversights in the Plan of Action contributed to weaknesses in the ORR. The PPtF NNSA Readiness Assessment was delayed by NNSA in part due to the large number of Contractor Readiness Assessment findings. The subsequent NNSA Readiness Verification Review found a significant number of findings had not been adequately resolved.

Lessons learned do not appear to be carried over from one startup activity to the next, and historical data on the timelines associated with startup preparations have not been adequately used to develop realistic plans and schedules. Finally, the rigor applied to processes relied upon to ensure an activity is ready to be started does not appear to be sufficient. The overall readiness performance appears to be dependent upon individuals experience in the performance of startup activities, which has led to inconsistent quality in POAs, scoping and planning, and integration to the overall project.

The Maintenance functional area overall met expectations with maintenance programs being routinely implemented in accordance with performance objectives. Major accomplishments included the completion of a maintenance implementation plan, development of an Integrated Work Control manual, development and submittal of an annual maintenance plan, completion of numerous building outages. A Balance of Plant Management Work Center was established and 15 crews are currently being scheduled with the remaining 24 to be included by the end of the calendar year. DM was stabilized at Y-12. Implementation of the SAP Maintenance Module has progressed according to the Annual Maintenance Plan. RCM Analysis was completed on 8 systems at Y-12. The integration between FCAS, Deferred Maintenance, and the Outage Programs has fully matured.

Programmatically, Post Work Testing has been well documented and laid out for implementation in an Integrated Work Control Manual. However, PWT criteria and instructions have not been developed in the work packages or implemented consistently in the field nor has there been evidence to show proper equipment performance, sign off by the equipment owners, or adequate population in the Computerized Maintenance Management System.

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## Conduct of Operations

Overall performance in the Conduct of Operations functional area was good.

The objective of the Conduct of Operations program is that the Y-12 facilities and utilities will be operated safely and in accordance with the requirements of DOE Order 5480.19, *Conduct of Operations Requirements for DOE Facilities*, as defined in the S/RIDs, and plant policies and procedures.

Overall CONOPS performance improved over the reporting period, but continued attention and leadership is required to maintain this positive trend. Positive CONOPS indicators were noted across the Manufacturing organization in operator performance; improvements in the conduct of pre-shift and pre-job briefs; the identification of unusual conditions and properly stopping to correct these conditions. The timeliness in the convening of critiques also improved in FY05. The number of safety basis violations was reduced by 65% of FY04 levels (20 down to 7). This is considered a significant improvement and demonstrates management's ability to effect positive changes with the right level of attention. BWXT Y-12 management continues to focus on improving overall performance, and have improved overall responsiveness to issues and events as they occur.

Even with these improvements, continued and repetitive problems with procedures, equipment configuration control, work control, and safety basis requirements all indicate an overall performance level that still requires improvement. Multiple events associated with work authorization, planning and control indicate a weakness in the overall control of facility operations. Overall procedural adherence problems indicate that greater rigor, understanding and accountability are required by management and personnel to ensure that equipment and work control and work execution is conducted in accordance with procedural requirements. Continued improvements in safety basis implementation; adherence to procedural requirements; equipment configuration control; and work authorization and control will be required.

#### **Ouality Assurance**

Overall per formance in the Quality Assurance functional area was good.

The objective of the Quality Assurance Program is that Facility Quality Assurance will be implemented in all operations conducted at Y-12 in accordance with the requirements of 10 CFR 830.120 and DOE Order O414.1B, Quality Assurance, as defined in the S/RIDS and plant policies and procedures, including Y-12 procedures Y60-101PD, Quality Program Description

There were no major QA performance issues affecting product quality, or safety that were identified by YSO in Fiscal Year 2005. This is facilitated by a strong and well-documented program which has been confirmed by several external assessments, particularly in the area of weapons quality, software quality, and welding. In particular, progress in welding experienced since QA was given responsibility for this function is being sustained and YSO has confidence that excellent performance will continue into FY 06. In addition, BWXT has improved in the areas of M&TE controls. Instances in which expired M&TE being used and/or improperly controlled have steadily decreased since FY 04.

In general, BWXT has focused on continued improvement in development of an infrastructure capable of identification of areas needing improvement. This was especially evident in the area of **Per**formance Assurance in which all management assessments are reviewed to ensure they meet BWXT expectations. The benefit of these efforts is substantiated by results of YSO and external reviews which consistently highlighted thorough and technically-excellent management and independent assessments.

Results of YSO and Office of Assessments reviews, however, indicated that effectiveness of corrective actions has always been satisfactory. Reviews of actions and documentation indicated incomplete packages and problems with field implementation not being consistent with required actions and



commitments. Development and maintenance of effective corrective actions will need increased BWXT attention in the upcoming year.

#### Maintenance

Overall performance in the Maintenance functional area was good.

The objective of the Maintenance Program is that activities will be conducted in accordance with DOE Orders 0433.1, Maintenance Management Program for DOE Nuclear Facilities; 0430.1B, Real Property Asset Management; and the Presidents Federal Energy Efficiency Executive Order 13123, as defined by the Systems Requirements Identification Documents (S/RIDs), plant policies and procedures.

With the exception of several instances, the maintenance programs were routinely implemented in accordance with performance objectives. No interruptions were caused directly by maintenance activities. The actual cost of the program budget (i.e., Direct and Indirect) came in just under 6.5% of planned budget which is acceptable. The Y-12 Maintenance Implementation Plan and Annual Maintenance Plans were revised and submitted to YSO on schedule. Both professional memberships for the UT Reliability Centered Maintenance Program and EPRI NMAC were renewed. The incentive to refine and develop Skill of Craft guidelines was incorporated into the Fl&S Training Plan (Y/OC-003, Rev 0) that defines the minimum skills and training necessary for a craftsman to safely and effectively perform the assigned task.

Programmatically, Post Work Testing has been well documented and laid out for implementation in new Integrated Work Control Manual (Y18-012). However, PWT criteria and instructions have not been developed in the work packages or implemented consistently in the field, nor has there been evidence to show proper equipment performance, sign off by the equipment owners, or adequate population in the Computerized Maintenance Management System.

The Balance of Plant Management Work Center was established and 15 crews are currently being scheduled with the remaining 24 to be included by the end of the calendar year. DM was stabilized at Y-12. The Maintenance process was adequately assessed by YSO, BWXT and outside sources such as DNFSB and OA-40 with results showing good practices and deficiencies. Five occurrences were recorded within the maintenance program which is down from the 9 recorded in FY 2004, and 11 recorded in FY 2003. Implementation of the SAP Maintenance Module has progressed according to the Annual Maintenance Plan. RCM Analysis was completed on 8 systems at Y-12. Equipment Services is progressing with implementation of the program to come into compliance with Maintenance SRIDs. A methodology for estimating DM on personal property was developed and implemented by the Property Management Department. Performance measures (i.e., Backlog and stabilization of DM) were acceptable. Integration between FCAS, Deferred Maintenance and the Outage Programs has fully matured along with the FCAS and Building Outage Program.

#### **Training and Qualification**

Overall performance in the Training and Qualification functional area was good.

The objective of the Y-12 Training & Qualification program is that it will be managed and implemented in accordance with the requirements of DOE Order 5480.20A, Personnel Selection, Qualification, and Training Requirements for DOE Nuclear Facilities, as defined in the S/RIDs, and Y90-027, Conduct of Training, which implements the DOE Order requirements.

The Y-12 Training and Qualification program has achieved a level of maturity that is commensurate with a workable, adequate program, which will support both current and future missions and also support safe operations. The other element of a fully effective training program is the successful implementation of the program in the operating and support organizations. During FY 2005, the implementation of the program

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did not reach the level of success that the program matic element achieved. Numerous implementation problems with the Industrial Hygiene Department Operations Training program were left unresolved, resulted in significant concern by YSO. Management attention must be maintained on both the programmatic and implementation elements to ensure a fully mature training program.

The current organizational structure assigns the programmatic element of the training program to the Plant Training and Manufacturing Training Organizations, while responsibility for the implementation element is assigned to the facility operations and support organizations. BWXT Management has demonstrated that these responsibilities are clearly assigned to their respective organizations with minimal interaction.

During FY 2005, the various YSO assessments and observations led to the conclusion that the Y-12 Training & Qualification program area was stable. No programmatic concerns were found. From a performance aspect, BWXT has exhibited both positive and negative trends in training implementation. Examples are as follows.

- There were no instances where individuals with expired or non-existent training were assigned work,
- Conduct of IVRs resulted in discovery of the same issues across the Manufacturing facilities, such as issues with PDCs, TIAs, and incorrect assignment of training requirements,
- Management Self Assessments are thorough, probing, and have demonstrated that compliance and implementation issues can be found internally, without YSO intervention,
- YSO conducted both programmatic reviews (YCON-3) of training programs in several BWXT organizations, and several Quality Assurance Surveys (QAS-4.0) where weaknesses were documented. Several common weaknesses were found during the reviews both technical and administrative in nature,
- There has been continued management emphasis on maintaining current training qualifications which has resulted maintaining the monthly percentage of employees with training deficiencies below 2.3%,
- All 11 performance targets were met; 4 out of 11 performance targets were exceeded. This was verified by YSO through document reviews and field verification.
- BWXT has demonstrated the capability to efficiently streamline training courses and training schedules and result in a significant cost savings,

In summary, BWXT has a stable program with the necessary self-assessment elements built in to ensure proper implementation. This has been demonstrated numerous times to YSO in the field. Also, 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 steadily and satisfactorily improved over the last three years.

## **Readiness** Program

Overall performance in the Readiness Program functional area was good.

The objective of the Readiness Program is that the startup or restart of nuclear activities will be conducted in accordance with the requirements of DOE Order 425.1C, Startup and Restart of Nuclear Facilities, as defined in the S/RIDs and Y-12 procedure Y15-190INS, Y-12 Readiness Manual. The startup or restart of non-nuclear facilities will be conducted in accordance with the Y-12 procedure Y15-190INS, Y-12 Readiness Manual.

The Contractor achieved several successful startups including Alternate Casting, Oxide Conversion Facility (OCF) and PPtF, all of which required NNSA authorization to startup. However, it is noted that the

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Contractor continues to struggle with identifying and planning for all startup/restart activities. Items have not always been identified on the Startup Notification Report (SNR) a year prior to the startup date. It is noted, however, that OCF continues to experience preoperational testing problems, some of which have been tied to equipment readiness problems. Delays in startup activities continue to occur. A delay (or "pause") in the Contractor readiness review for OCF was effected after the review commenced. Furthermore, Contractor readiness review did not meet the YSO expectations. The ORR Implementation Plan was not adequate, the selection of review approaches was not sufficient, and the final report had weaknesses. Oversights in the Plan of Action, which is developed by the line management organization contributed to some of the overall weaknesses in the ORR. In addition, the PPtF NNSA Readiness Assessment was delayed by NNSA in part due to the large number of Contractor Readiness Assessment findings. The subsequent NNSA Readiness Verification Review found a significant number of findings had not been adequately resolved.

Review of Contractor authorized nuclear activity startups/restarts often reveals a large number of problems that get corrected during the readiness review effort and are not reported as findings. The nature and large numbers of problems that continue to be identified by readiness review teams and the willingness of the Contractor to "pause" in the middle of a review to achieve a state of readiness indicate that Contractor readiness activities are still being used to produce rather than confirm readiness. Lessons learned do not appear to be carried over from one startup activity to the next, and historical data on the timelines associated with startup preparations have not been adequately used to develop realistic plans and schedules. These planning problems have been noted in both nuclear and non-nuclear equipment and activities. And finally, the rigor applied to processes relied upon to ensure an activity is ready to be started does not appear to be sufficient. This has been evidenced by the suspen sion of OCF ORR last October, and most recently by the significant number of deficient conditions identified by the Contractor review team for PPtF.

## IV. PROGRAM AND PROJECT

The area of Programs and Projects includes Integrated Program Planning and Execution, Modernization Planning, Construction Program/Project Management, Plant Directed Research and Development (PDRD), Directed Stockpile Work (DSW), Campaigns, Readiness in Technical Basis (RTBF) and Facilities Infrastructure and Recapitalization Program (FIRP), Nuclear Non-Proliferation (NN), Naval Reactors and other reactors supply, and Complementary Work for Others. These programs include the mission essential work that Y-12 is tasked to accomplish throughout the year.

A major focus for the site this year was in the area of Modernization. BWXT Y-12 did an excellent job of supporting modernization activities, including compliance with the DBT, given that much of the modernization effort was unfunded. Although it took several iterations, the final Integrated Modernization Program Plan met all expectations, and was very well received at HQ. A major accomplishment was the relocation of the QE in-line glovebox, which was one of the milestones supporting the DBT implementation plan. In the area of Integrated Program Planning and Execution, the PPBES management was effective. BWXT Y-12 provided excellent support for a variety of complex program meetings/events this fiscal year, and the detail assignments of senior managers to HQ has resulted in positive benefits to both HQ and Y-12. A number of less than adequate integration occurrences were noted throughout the year. BWXT Y-12 is providing outstanding support to the Responsive Infrastructure/Reliable Replacement Warhead activities. The Earned Value System was rated among "best in class" in the Earned Value Survey Report.

In the mission areas, DSW had 28 Level II milestones, all of which were blue, with the exception of the milestone to bring the purification facility on-line. Although it was started late, BWXT Y-12 made excellent progress on resolving a weld issue associated with the B61 Alt 357. All of the B61 NDE program was completed. All of the baseline Quality Evaluation and Surveillance program work was completed, as well as all incentivized dismantlement units. BWXT Y-12 also initiated the dismantlement of another system this FY. BWXT Y-12 continues to provide strong support for container refurbishments and safety

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documentation for nuclear packaging. Some important work was not completed this year, including 18% of the W76-1 LEP work scope, and 80% of the W87 JTA-4 work scope.

Within Campaigns, all Level II milestones were completed on time with the exception of the Stockpile Readiness milestone for the Disassembly Glovebox. Support for the Uranium Processing Facility Technology Development Plan was overwhelmingly provided by Campaigns. Significant progress was achieved in the technology of microwave casting. The dissolution process for Saltless Direct Oxide Reduction (SDOR) was redesigned and demonstrated off-site using surrogate materials. Advances in digital radiography were achieved making Y-12 a leader in the complex for this technology. Campaigns needs to improve in project cost and schedule, as indicated by a CPI=0.87 and SPI=0.81. Total PDRD spending for FY 2005 was \$12.66 million, which is within 0.5% of the amount allowed. This represents a significant accomplishment for the Y-12 program.

All RTBF Level I and II milestones were "BLUE" with the exception of OCF which is RED since the May 31st milestone was missed. With regard to CPI and SPI, RTBF finished the year at 0.99 and 0.97. This is very significant given the fluctuations that occurred to the original baseline through the addition of plus-up funding and reprogramming that occurred over the year. It is also very significant that RTBF completed an activity based budget for the major production facilities in light of funding difficulties ahead in FY 2006. Outages were completed on all the major production facilities as planned, 10CFR830 submittals were met, and progress continued to be made on key activities in the Fire Protection Program Comprehensive Corrective Action Plan (FPPCCAP). Within MRR, lithium production goals were exceeded and the reduction vessels restarted and the production target met. In the area of FIRP, Infrastructure Reduction eliminated over 210,000 square feet of excess space removed from the site and maintained a focus on building 9206 through the demolition of two rooms and the deactivation of the demitrators. Despite a slow initial ramp-up on the recapitalization side, several major projects were completed. In addition, the focus on deferred maintenance yielded over \$20M in reduction of the FY 2003 baseline attributable to FIRP.

In the area of Construction and Project Management, major accomplishments for the year included continued construction progress on the Highly Enriched Uranium Materials Facility (HEUMF) including the proactive incorporation of the DBT changes; obtaining CD-0 approval for the Uranium Processing Facility; progress on readiness activities for the Purification Facility; excellent progress on the FIRP line items including the CD-1 package for PWSU, receipt of CAUP CD-3B, and completion of the SPLE CD-2A/3A and Title I Design Package ahead of schedule; overall execution of the GPP/GPE projects, and successful closure of legacy line items. BWXT also celebrated over a year without a lost work day away in construction. There are numerous challenges to HEUMF cost and schedule baseline, and the planning and execution of readiness and transition to operations continues to be a focus area. BWXT Y-12 needs to ensure that maintenance, calibration, engineering and operations support is provided to the projects as required.

In the area of NN and NR and other reactors, outstanding progress has been made in the preparation and delivery of HEU to Naval Reactors, USEC, TVA, and foreign governments for research, test, and medical isotope production reactors, and in planning and executing other HEU disposition projects. Y-12 has now completed all deliveries to USEC for the 50 MTU, which is a major milestone. Some HEU shipped to the NR fuel fabricator did not meet the NR specification. BWXT is having outstanding success in making and expanding its contributions to the NNSA Defense Nuclear Nonproliferation programs. The increased participation in the HEU Transparency Program has greatly exceeded expectations. All IAEA inspections at Y-12 were conducted without incident. Participation and support of the new Global Threat Reduction Initiatives has been outstanding. BWXT employees provided key expertise and project management for complex and sensitive missions to remove radioactive material and equipment from foreign environments.

The remainder of this section provides more specific information on each of the Program and Project topical areas.

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#### **Integrated Program Planning and Execution**

Overall performance in the Integrated Program Planning and Execution functional area was good.

The objective of the Integrated Program Planning and Execution program addresses the effort to integrate program planning and execution across the Y-12 National Security Complex and across the Nuclear Weapons Complex. Major objectives include supporting program activities, the Planning, Programming, Budgeting and Execution System, timely and accurate control of the approved work baseline, efficient and cost effective execution of work, promoting open communication, initiating continuous improvement, and proactively participating in collaborative efforts of the Nuclear Weapons Complex. Integrated program planning and execution is needed to ensure efficient and effective mission accomplishment. Work must be planned and approved prior to execution, and must not exceed funds available in approved financial plan. Carryover and reprogrammings should be minimized.

BWXT Y-12 did an excellent job of supporting modernization activities, including compliance with the DBT, given that much of the modernization effort was unfunded. This was accomplished through the development/deployment of the productivity improvement initiative, Six Sigma initiatives, integrated workload planning, and communication with HQ stakeholders. BWXT Y-12 provided excellent support for a variety of complex program meetings/events this fiscal year including the DP Planning and Budgeting Meeting, the Tennessee Valley Corridor Summit meeting, and Quarterly Program and Project Reviews. Numerous HQ briefings were conducted on modernization planning, alternate financing, line item projects, and program execution to a number of important visitors including the NNSA Administrator, Deputy Administrator, NA-10, NA-20, NA-70, etc. Local communication with YSO has been good. The detail assignments of senior managers to HQ has resulted in positive benefits to both HQ and Y-12.

Overall, the PPBES management was effective. The 2007 FYNSP deliverables were submitted on time and were of acceptable quality. The presentation for the annual DP Programming and Budget meeting should have been completed earlier, as additional time was needed for review and coordination of the submittals. Good support was noted for the QPRs and updating the Milestone Reporting Tool. Baseline Change Proposals, PPLs, and Summary Work Plans were submitted on time, and were of acceptable quality. Year end deliverables (final WADs, summary work plans, carryover BCPs) were completed and delivered to YSO prior to the end of the fiscal year. Submission of an alternate set of WADs to support the "full LEP case" was completed on short notice and was over and above the expected WAD submission.

In the area of work prioritization and integration, BWXT Y-12 needs to improve integration between programs, and between project managers and program managers. A number of less than adequate integrations were noted throughout the year.

BWXT Y-12 is providing outstanding support to the Responsive Infrastructure/Reliable Replacement Warhead activities. The Earned Value System was rated among "best in class" in the Earned Value Survey Report. A first of its kind evaluation of the BWXT Y-12's Planning and Integration systems and program management methods by the NA-10 Weapons Complex Integration Technology Implementation Department staff resulted in a very positive "Best Practices" application remarks by the appraisal team.

#### **Modernization Planning**

Overall performance in the Modernization Planning functional area was good.

The objective of Modernization Planning for the Y-12 National Security Complex includes developing a comprehensive strategy to achieve a modernized factory that is responsive, efficient, and cost effective in meeting NNSA missions, the latest design basis threat guidance and that complies with modern codes,

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standards, and ES&H regulations. Y-12 program and project initiatives must be integrated to ensure a consistent execution of the vision.

BWXT Y-12 accomplished several significant milestones on Phase 1 of the QE Relocation project including submittal of the Preliminary Documented Safety Analysis and Design Criteria, Project Execution Plan, and movement of the inline box to the new location on September 28<sup>th</sup>. Revision 1 to the QE Relocation PEP was submitted in late August 2005, but reflected a projected startup date in August 2006 that does not support current program, security, and modernization commitments. The YSO remains concerned with the revised schedule, the level of detail associated with readiness preparation activities, and the overall funding plan contained within the revised PEP. BWXT made good progress in developing an alternate strategy to consolidate Depleted Uranium/Binary Operations into Area 5. Exemption 2

BWXT has worked with vendors to firm up estimates and the overall project cost has dropped significantly. Budgets were reallocated this fiscal year to fund Phase 1.

BWXT made good progress in documenting additional details regarding the modernization strategy. The revised Integrated Modernization Program Plan described the line item projects and the various modernization initiatives that are required to accomplish the vision of a modernized complex as well as interfaces, security drivers, and near term funding requirements. A host of other documents were produced as well including the: Highly Enriched Uranium Materials Facility Load Out Project Execution Plan, Beta-2 to Beta-2E Oven Consolidation, Deactivation and Decommissioning Planning on the Y-12 NSC, Multi-Phase Material Consolidation, and Implementation Plan for Accelerated Dismantlement Project. BWXT also issued the final version of the Ten Year Comprehensive Site Plan (TYCSP).

BWXT issued the Uranium Processing Facility (UPF) Technology Development Plan and did an excellent job in soliciting outside expertise including working with the Design Agencies to finalize the plans. Several technology initiatives are behind schedule but are not expected to impact the technology selection process. BWXT has taken some positive steps to realign organizational responsibilities and improve the allocations of scarce resources in QE relocation, material consolidation, and modernization planning. Significant progress was made in developing a parking strategy and BWXT has provided excellent support for tours and presentations to communicate the modernization strategy to various stakeholders. BWXT freed up funds by reducing fringe benefit and wage pool rates in FY 2005 to support various modernization initiatives, and plans are in place to recast FY 2005 end of year balances to partially fund FY 2006 initiatives. Additional efficiencies and performance improvements will be required to fund activities in FY 2006.

#### **Construction and Project Management**

Overall performance in the Project Management and Construction functional area was good.

The objective of Construction and Project Management involves managing line item projects and GPP/GPE/MIEs and expense projects within established and approved baselines (cost, schedule, and scope). This includes the planning, pre-conceptual and conceptual design phases of projects as appropriate for critical decision packages, and integrating projects and project closeouts with other site entities and programs such that projects are completed and turned over by Operations as planned. All reasonable efforts are taken to ensure adequate and appropriate resources are in place within engineering, project management, and construction that will support all line items, GPP/GPE/MIE and expense projects identified within the Ten Year Comprehensive Site Plan (TYCSP), Future Year National Security Program (FYNSP), and Integrated Construction Project Plan (ICPP) for FY 2005. Efforts will be made to reduce the overall cost of projects by improving work processes and efficiencies.

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The construction and project management program at Y-12 has demonstrated the ability to meet established milestones, budget exercises, and information inquiries with quality and timely information and products. Most significant milestones were accomplished. Notable areas of good performance include: 1) use of the Lean & Agile Manufacturing Facility development process in planning for the UPF project; 2) proactive incorporation of the DBT changes to HEUMF construction activities; 3) receipt of CAUP CD-3B Start of Construction approval one month ahead of schedule; 4) timely quality completion of the PWSU CD-1 Package; 5) completion of the SPLE CD-2A/3A and Title I Design Package ahead of schedule; 6) overall execution of GPP/GPE projects; and 7) successful closure and approval of CD-4 for SMRI, 98-D-124. Additionally, the PPtF Project Team has been very responsive and acted in a prudent manner considering the FY 2003 project team's failure to identify and plan for the correct number of procedures and training to receive CD-4 in April 2005.

While the sharing of operational readiness lessons learned with NNSA Savannah River Site and the hiring of specialized personnel to support readiness improvements is commendable, there has been minimal improvements in overall Y-12 construction and project management work processes during the past year. Areas for continued improvement in project management include: 1) planning and execution of readiness and transition to operations; 2) management and implementation of internal and external lessons learned, 3) Y-12 procedures relating to the project management process (construction, maintenance, engineering) and associated PM training require updating to reflect the requirements of DOE M 413.3-1; 4) management of Architectural & Engineering subcontracts including title III services; 5) the timely and complete submittal of Labor Standards rulings; 6) and the overall planning and integration with the end-user and other site organizations.

Finally, the planning and integration for functional resources allocated to support the recovery plan for PPtF/Dryer Mold Loading projects and the HEUMF project (calibration support and maintenance; engineering and manufacturing operations, respectively) were deficient.

#### Plant Directed Research, Development, and Demonstration (PDRD)

Overall performance in the PDRD functional area was good.

The objective of the PDRD program is to support science-based manufacturing related to the NNSA weapons mission. PDRD is a plant manager directed program for employee-suggested research, development and demonstration projects that emphasize advanced science and technology to enhance the Plant's technology development capabilities and core competencies. The PDRD program allows the technical staff at Y-12 the opportunity to explore innovative scientific and technological opportunities that hold high potential for payoff in mission applications.

The program met all of its FY 2005 Performance Targets according to the Program Execution Plan, including spending 2% of the plant budget, populating the complex-wide PDRD database, and moving at least three technologies to the next stage of maturation.

Research and development collaboration efforts included information exchanges with the Kansas City Plant, the Savannah River Site, Pantex Plant, the University of Tennessee, and Oak Ridge National Laboratory.

Key technical achievements include:

- Field testing of the Personal Annunciation Device, Cone Beam X-ray and Computer Tomography Scanner project completion
- Evaluation of IR Preheating of Uranium billets
- "Super Materials" patent requests in the works

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- Development and planned implementation of wireless predictive maintenance system
- Advanced Metallographic Digital Techniques
- Planned implementation of Beryllium Monitoring Program procedures
- NMC&A Confirmatory Cart testing completed

A self-assessment and a YSO assessment on PDRD were both favorable. Reviews of FY 2006 project proposals by YSO and NNSA HQ were generally positive. BWXT provided detailed responses to NNSA HQ's self-evaluation questionnaire.

## Directive Stockpile Work (DSW)

Overall performance in the Directive Stockpile Work functional area was good.

The objective of the Directive Stockpile Work Program is to fulfill the Defense Programs mission to maintain the safety, reliability, and performance of the nuclear weapons stockpile. DSW includes all activities that directly support weapons in the stockpile including production and refurbishment, QE and surveillance, dismantlement, and supporting tasks such as nuclear weapon receipts and packaging, DSW complementary work, and production support.

DSW had 28 Level II milestones, all of which were blue, with the exception of the milestone to bring the purification facility on-line. Although it was started late, BWXT Y-12 made excellent progress on resolving a weld issue associated with the B61 Alt 357. All of the B61 NDE program was completed. All of the baseline Quality Evaluation and Surveillance program work was completed, as well as all incentivized dismantlement units. BWXT Y-12 also initiated the dismantlement of another system this FY. BWXT Y-12 continues to provide strong support for container refurbishments and safety documentation for nuclear packaging. Some important work was not completed this year, including 18% of the W76-1 LEP work scope, and 80% of the W87 JTA-4 work scope.

The DSW program was successful in meeting many but not all mission requirements. Some major DSW accomplishments included the following:

- Although late to schedule, completion of contractor readiness activities for the Purification Facility.
- Diligent and hard work associated with (a) developing a welding process supportive to the B61 ALT 357 requirements and (b) fabricating test and evaluation units against a dynamic program baseline.
- Completion of the B61 NDE program.
- Initiation of the QE Relocation project using internally generated funds.
- Completion of the baselined Quality Evaluation and Surveillance program.
- Completion of all incentivized dismantlement units.
- Continued strong support for container refurbishments and safety documentation for nuclear packaging.

Several opportunities for improvement have been identified including:

- BWXT Y-12 completed about 82% of the full baselined and funded W76-1 LEP work scope. The remaining work scope should have been completed.
- The contractor completed 20% of the full baselined and funded W87 JTA-4 work scope. The remaining work scope should have been completed.
- BWXT Y-12 experienced internal problems during the build of specific B61 Test & Evaluation units. The most significant issue involved the late start in executing a weld development program and the subsequent inability to weld per the design requirements specified by LANL.

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- Significant efforts are required to ensure the Y-12 manufacturing/maintenance infrastructure is reliable, available, and maintained in a state of readiness to support the DSW mission. Extended outages occurred during this evaluation period, and these outages were difficult to overcome. As time progresses, this aged equipment is expected to be driven harder and harder. When the aged equipment fails, extensive resources (people, funds, and most importantly time) are required before the equipment is restored to production use.
- Delays in the Purification Facility project, startup and readiness have significantly increased the risk to achieving programmatic target dates.
- DSW cost and schedule performances need to be improved to equal or exceed the NNSA targets.

### Campaigns

Overall performance in the Campaigns functional area was good.

The objective of the Campaigns program is that it will be managed and executed in accordance with Work Authorization Directives and implementation plans with focus on Level I, II, and III milestones. The Campaigns will re-establish and enhance the manufacturing capability at Y-12 needed for the long-term stewardship of the stockpile. These efforts will result in the revitalization of Y-12's ability to meet its mission requirements in a more responsive, efficient, and cost effective manner while improving security and worker safety and health. Campaigns are technically challenging, multi-year, multi-functional efforts to re-establish and enhance the manufacturing capability at Y-12 needed for the long-term stewardship of the stockpile.

At the end of the evaluation period the overall CPI and SPI averaged across all campaigns was way off from 1.0 (CPI = 0.87 and SPI = 0.81.) The uncosted balances for the individual campaigns were within the NNSA guidelines with the exception of Stockpile Readiness. The Readiness Campaign lowered its uncosted balance in comparison to the previous fiscal year.

All Level II milestones tracked by HQ in the Milestone Reporting Tool were completed on time with the exception of the SR milestone for the Disassembly Glovebox. BWXT sought and was granted approval from HQ to extend the due date into FY 2006.

The Campaigns at Y-12 provided significant support to the modernization program at Y-12 this year. Particularly, support for the Uranium Processing Facility Technology Development Plan was overwhelmingly provided by Campaigns. Significant progress was achieved in the technology of microwave casting. The dissolution process for Saltless Direct Oxide Reduction (SDOR) was redesigned and demonstrated off-site using surrogate materials. Advances in digital radiography were achieved making Y-12 a leader in the complex for this technology.

The project to install the Non-Destructive Laser Gas Sampling system (NDLGS) in the prior location of the Laser-Cutting Workstation mutually benefited ADAPT and QE and is a great example of how to accomplish a project efficiently. Similarly, the choice to relocate the ELTTD equipment to the area designated for the "new" QE mutually benefited QE.

Several new projects in campaigns will provide immediate benefit to Y-12 as well as be incorporated into the long-term plans for modernization of the Complex. The EB Weld Inspection Station could provide cost avoidance of around \$750K for each unit inspected. The chip management project could be utilized on current cutting tools without having to wait for the agile machine tool. The three CMMs with integrated gloveboxes, in addition to being a vast improvement over current technology, also provide demonstration of nitrogen generator technology that could have far reaching implications for the plant. Y-12 made significant progress in security in getting approval for unlimited deployment of classified diskless thick client desktop and machine controller workstations.

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A recurring theme in Campaigns is the difficulty in obtaining Operations and/or Maintenance support for projects. This remains an issue for Campaigns projects.

# Readiness in Technical Base and Facilities & Facilities and Infrastructure Recapitalization (RTBF/FIRP)

Overall performance in the RTBF and FIRP functional areas was good.

The objective of the RTBF is to ensure that the right facilities, infrastructure, technologies, and competent skilled and trained workforce are in place such that they are not limiting factors in the accomplishment of the Defense Programs mission. The Facilities and Infrastructure Recapitalization Program (FIRP) complements RTBF and is comprised of three components: projects designed to address long-standing facilities and infrastructure deficiencies, removal of excess facilities, and planning for projects to be worked in subsequent years.

All RTBF Level I and II milestones are "BLUE" with the exception of OCF which is **RED** since the May 31st milestone was missed. With regard to CPI and SPI, RTBF finished the year at 0.99 and 0.97. This is very significant given the fluctuations that occurred to the original baseline through the addition of plus-up funding and reprogramming that occurred over the year. It is also very significant that **RTBF** completed an activity based budget for the major production facilities in light of funding difficulties ahead in FY 2006. This will significantly assist in the management of a program that will grow considerably with the inclusion of Common Site Support under RTBF next year.

Within the major functional areas of RTBF, outages were completed on all the major **production facilities** as planned, 10CFR830 submittals were met, and progress continued to be made on key activities in the Fire Protection Program Comprehensive Corrective Action Plan (FPPCCAP). Within MRR, lithium production goals were exceeded and the reduction vessels restarted and the production target met. From the capital side, the B-1 wing fire protection upgrades were completed and a blood analyzer installed that will result in significant savings in the medical area.

In the area of FIRP, Infrastructure Reduction eliminated over 210,000 square feet of excess space removed from the site and maintained a focus on building 9206 through the demolition of two rooms and the deactivation of the denitrators.

# Exemption 2

the focus on deferred maintenance yielded over \$20M in reduction of the FY 2003 baseline attributable to FIRP.

In addition.

#### **Nuclear Nonproliferation and Naval Reactor Programs**

Overall performance in the Nuclear Nonproliferation and Naval Reactor Programs functional area was outstanding.

The objective of NN is to reduce the global danger from weapons of mass destruction by reducing nuclear weapons stockpiles and the proliferation threat caused by the possible diversion of nuclear materials and continuing leadership in policy support and technology development for international arms control and nonproliferation efforts. The NR mission is to strengthen the national security by meeting national security requirements for naval nuclear propulsion and for other advanced nuclear power systems.

Outstanding progress has been made in the preparation and delivery of HEU to Naval Reactors, USEC, TVA, and foreign governments for research, test, and medical isotope production reactors and in planning

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and executing other HEU disposition projects. Y-12 has now completed all deliveries to USEC for the 50 MTU that was transferred to USEC. Y-12 completed the shipments in accordance with project schedules and has maintained very good customer relationships with NN Headquarters, USEC and the down-blending vendor during the project. Y-12 continues to plan and execute projects to disposition complex HEU materials and forms such as the SNAP reactor, low equity HEU and other materials. Y-12 has provided excellent support for the DOE complex in the planning and disposition of surplus HEU (e.g. Idaho), and in the identification of additional HEU inventories to be declared as excess from the nuclear weapons program and down blended. Some HEU shipped to the NR fuel fabricator did not meet the NR specification. YSO is concerned about guality assurance in the Y-12 analytical laboratory.

BWXT is having outstanding success in making and expanding its contributions to the NNSA Defense Nuclear Nonproliferation programs. The increased participation in the HEU Transparency Program has greatly exceeded expectations. All IAEA inspections at Y-12 were conducted without incident. Participation and support of the new Global Threat Reduction Initiatives has been outstanding. BWXT employees provided key expertise and project management for complex and sensitive missions to remove radioactive material and equipment from foreign environments.

#### **Complementary Work for Others**

Overall performance in the Complementary Work for Others functional area was good.

The objective of the Complementary Work Program is to support the overall NNSA mission and Y-12 specific programmatic needs. The Complementary Work Program will focus on development and execution of work activities that capitalize on Y-12's nuclear and special materials capabilities.

The BWXT Y-12 Manager authorized the Director of National Security Program Office to staff up for business development positions for the Work for Others part of Complementary Work. Lack of priority from the Director and delays from the Personnel organization has resulted in no new staff positions for work for others business development this fiscal year. Also, work with ORNL resulted in 109 projects totaling \$5.5M of project work coming to Y-12. This total is down from FY 04 by \$4.5M.

Y-12 performed an outstanding job in winning work from the Department of Homeland Security for Cyber Security expertise and continuing work with the Office of Personnel Management for the e-QIP system resulting in more work with other government agencies. Y-12 was instrumental in signing three technology licenses for FY 2005. Y-12 continues to be successful with establishing new mentor protégé agreements with three small businesses. The Vulnerability Assessment Resource Center worked extremely hard this fiscal year in bringing in work to the Center. Y-12's efforts in attending national conferences and other conferences shows impressive effort in growing the Complementary Work for Others program and obtaining Y-12 visibility. Y-12 hosted and made several visits from work for others customers and other NNSA contractors to help grow business within the nuclear weapons complex.

Even though business development positions for Work for Others did not materialize and work with ORNL decreased, several successful projects and activities were accomplished.

## V. SAFEGUARDS AND SECURITY

The Safeguards and Security (S&S) Performance Objective included the following functional areas: S&S Program Management, Personnel Security, Information Security, Nuclear Materials Control and Accountability (NMC&A), and Protection Program Operations (PPO).

Overall performance in the S&S Program Management and Personnel Security functional areas was Outstanding. Performance in the S&S Program Management functional area continued to improve

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throughout the year as a result of increased management attention and commitment to correcting issues and improving overall Y-12 S&S. Significant emphasis was placed on resolving outstanding findings, preparing for the Office of Oversight and Performance Assurance (OA) inspection which was completed in June, and responding to Design Basis Threat (DBT) requirements and changes. One area of continued concern was the inability to maintain adequate facility security plans. Management attention must continue to be focused on adequately documenting the S&S systems and processes in approved plans and ensuring implementation across the Y-12 site. A major initiative that will be fundamental in the success of the Y-12 S&S program is the configuration management process now being established. This is a significant effort which should result in an enhanced and maintainable security posture. Major accomplishments in the Personnel Security area included the establishment of a strong citizenship verification process which was identified by NNSA-HQ as a standard for the complex. Implementation of the Human Reliability Program (HRP) continued to be strong with the addition of several process improvements. Significant contractor effort was expended in successfully preparing for the implementation of HSPD-12 identification verification requirements beginning in October 2005.

Overall performance in the Information Security, NMC&A, and PPO functional areas was Good. Major accomplishments in the Information Security area included the development of an automated accountable classified removable electronic media (ACREM) inventory system, the destruction of a significant amount of unneeded ACREM, and overall performance in the classified cyber security area. The contractor's work in the programmatic and technical cyber security functions were validated during the OA inspection with the resulting report noting that Y-12 had one of the leading classified cyber security programs in the DOE complex. Areas needing continued management attention are the implementation of Deviations and conditions of approval, and ensuring all ACREM is adequately maintained in the accountability system. Significant achievements were seen in the NMC&A area, including the first OA rating of "Effective Performance" received in many years. Continuing concerns with the implementation of material surveillance requires substantial management attention to resolve. In the PPO area, significant accomplishments were seen in security enhancements implemented during the reporting period including the completion of the West Fort and deployment of the remote operated weapons system (ROWS). While overall performance in the PPO area improved throughout the period, the significant physical system issues still requiring resolution require continued management attention. Although the contractor took actions to correct known system issues, the results were not adequate to resolve open OA and YSO findings.

In June, the OA completed a comprehensive review of all Y-12 S&S Program areas. The OA's final report noted "The inspection found that significant improvements have been made in management practices and performance in a wide range of safeguards and security disciplines and in classified cyber security." While continuing issues were noted with some physical security systems, the improvement in almost all areas of Y-12 S&S was a significant accomplishment.

Overall performance in the S&S functional areas met or exceeded YSO expectations and significant improvements were achieved. Continued strong action and dedicated senior management attention will be necessary to meet increasing requirements and challenges for the future of the S&S program at Y-12.

The remainder of this section provides specific information on each of the S&S topical areas.

#### S&S Program Management

Overall performance in the S&S Program Management functional area was good.

The objective of this area is to ensure all S&S Program Management elements are implemented in the execution of a S&S program in accordance with DOE Order 470.1; S&S applicable CFRs; DOE/NNSA directives, orders, and policies; YSO directives and policies; and Y-12 policies and procedures.

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Efforts to enhance S&S program management effectiveness were continuous and substantial. While there is still room for improvement in some areas, overall performance was significantly improved due to the significant management attention and commitment to improving overall Y-12 S&S. The OA inspection did not include any findings for BWXT in the Program Management functional area, providing a rating of "Effective Performance." The OA noted significant improvement in many areas of BWXT security program administration since their previous inspection.

Contractor implementation of the NNSA Annual Operating Plan (AOP) was acceptable for this year with generally acceptable performance against the plan, the conduct of detailed quarterly reviews, and significant communication and information exchange on budget changes. However, continued improvement needs to be made to fully achieve the expectations of this process. The contractor must continue to establish more "requirements based" process and staffing information; must ensure that timely revisions are made to the AOP when significant program or budgetary changes occur; and must ensure that an adequate AOP is developed and submitted in time for YSO to approval a plan prior to beginning the fiscal year.

Significant emphasis was placed on responding to DBT requirements and changes. On June 30, 2005, the contractor submitted a new Y-12 DBT Implementation Plan to YSO. On August 24, 2005, NA-70 noted general agreement with protection strategies outlined in the plan, however, actual approval was withheld due to a new vulnerability assessment and plan development expectations. The VA team was active in supporting construction of the West Fort, development of the SSSP, and supporting other major projects like the HEUMF and UPF.

One area of continued concern was the inability to maintain adequate facility security plans. Management attention must continue to be focused on adequately documenting the S&S systems and processes in approved plans and ensuring implementation across the Y-12 site. The S&S change control and configuration management process being finalized and implemented will be fundamental in the success of the Y-12 S&S program. This is a significant effort which should result in an enhanced and maintainable security posture.

During FY 2005, the contractor made great progress in closing CAP actions in response to OA findings assessed as a result of a 2003 inspection of the Y-12 NSC. Contractor attention and focus also resulted in the closure of several other significant findings. The Foreign Ownership, Control, or Influence (FOCI) and Incidents of Security Concern (IOSC) programs were adequately implemented. Contractor efforts to effectively investigate and report IOSC's are in earnest and successful at resolving issues.

#### **Personnel Security**

Overall performance in the Personnel Security functional area was Outstanding.

The objective of this area is to ensure Personnel Security program requirements are implemented in the execution of a S&S program in accordance with DOE Order 470.1; S&S applicable CFRs (including 10 CFR 712); DOE/NNSA directives, orders, and policies; YSO directives and policies; and Y-12 policies and procedures.

Major efforts in developing and implementing the successful Citizenship process resulted in a significantly reduced risk of unauthorized individuals accessing Y-12. This was recognized by the OA during their inspection. NNSA-HQ has promulgated this process to other sites searching for effective ways to circumvent unauthorized access. The Y-12 Human Reliability Program, which replaced the Personnel Security Assurance Program this year, is recognized as one of the best-managed in the DOE complex. Dr. Eisele, Director, Center for Human Reliability Studies, ORISE, conducted an independent survey of the HRP program with specific emphasis on YSO and BWXT Medical, the results of which were, "The Y-12 HRP meets all requirements in the regulation (10CFR Part 712)." No deficiencies were found in any of the

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elements, but rather an "above and beyond" attitude by individuals administering the HRP was recognized. The HRP video/DVD training materials developed by BWXT were requested by other DOE sites. The area of Access Authorization continued to be managed in an exemplary manner. BWXT was exemplary in meeting the DOE-HQ criteria for access authorization documentation error rate, with an error rate well below the 3% requirement for the year. This is in large part the result of the Web-Based Applicant User Interface/Personnel Security Interface (AUI/PSI) for entering, validating, and submitting QNSPs. This has resulted in a more efficient, cost-effective method of processing clearances. There was a major improvement in the quality of the Annual Security Refresher Briefing over that developed in recent years. A major factor was the shift of this programmatic area from WSI-OR to BWXT during the July 1, 2005, contract changeover. BWXT also did an outstanding job of translating new HSPD-12 requirements into process-related data.

#### **Information Security**

Overall performance in the Information Security functional area was Good.

The objective of this area is to ensure Information Security program requirements are **implemented** in the execution of an S&S program in accordance with DOE Order 470.1; S&S applicable CFRs; DOE/NNSA directives, orders, and policies; YSO directives and policies; and Y-12 policies and procedures. The contractor made substantial improvements in their programmatic and technical cyber security program. This work was validated during the 2005 OA inspection with the resulting report stating Y-12 had one of the leading classified cyber security programs in the DOE complex.

## **Exemption 2**

Many positive aspects of the CMPC program were also seen, with robust CMPC and ACREM assessments, ACREM destruction, the development of an automated ACREM system, and reduction of the combination backlog.

Program evaluations and assessments typically found the implementation of the information security subtopical areas met requirements. There were, however, some areas of concern where findings were issued during the year. YSO has concerns that some recent security plans have not adequately described systems and, in some cases, adequate coordination was not evident between BWXT Divisions and the cyber security organization. YSO did note some issues throughout the year including deviations not being fully implemented; the identification of ACREM not in accountability; and failures to fully implement CAPs. In addition, issues with document and email markings, media and hardware labeling, and the approval of classified shredders and copiers were identified during the year.

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

Overall performance in the NMC&A functional area was Good.

The objective of this area is to ensure NMC&A program requirements are implemented in the execution of an S&S program in accordance with DOE Orders 470.1 and 474.1A; DOE Manuals 474.1-1B and 474.1-2; S&S applicable CFRs; DOE/NNSA directives, orders, and policies; YSO directives and policies; and Y-12 policies and procedures.

BWXT made significant progress in improving NMC&A performance at Y-12 during this evaluation period. BWXT continued to demonstrate strong commitments to the NMC&A program including the implementation of process monitoring, use of the management assessment process, and the use of full-time MBA custodians in the operating areas to assist operating area personnel. The NMC&A Department continued to produce quality documentation and coordination of shipper/receiver agreements and progress on the implementation of the material surveillance activities for the operating areas. Significant progress was made in the following important areas:



- IV/C measurement method BWXT completed the July and September physical inventories using a non in-situ measurement method. This methodology will continue to be used (pending the outcome of ongoing measurement studies).
- Implementation of the TPR program The definition of TPR is currently being reviewed so that any confusion can be addressed and proper implementation can be achieved. The new actions include a surveillance program using a checklist to record observations, and trending of the results. After sufficient data has been gathered for each MBA, NMC&A will perform a trending analysis of the results.
- Several plans are in place or in the approval process for improving the implementation of material surveillance requirements.
- Progress was made on the reduction of solutions in tanks to a more appropriate measurable form.

### **Protection Program Operations (PPO)**

Overall performance in the PPO functional area was Good.

The objective of this area is to ensure PPO requirements are implemented in the execution of a S&S program in accordance with DOE Order 470.1; S&S applicable CFRs; DOE/NNSA directives, orders, and policies; YSO directives and policies; and Y-12 policies and procedures. Several achievements were made in this area during the year, including approval to operate and deployment of the remote operated weapons system (ROWS); the addition of hardened Pro Force fighting positions; construction of the west Fort; and the installation of vehicle detection systems, "Dragon's" teeth, and other physical barriers.

Some of the more significant issues identified and ongoing for the period involve VTR's and other security system deficiencies. Additionally the issue of cabinets used for classified processing was not adequately addressed during this performance period. The FY 2005 OA Inspection, which occurred during the second half of this period, rated Physical Security and Security Systems (included in the PPO area) as NEEDS IMPROVEMENT due to compliance issues with several vault-type rooms (VTRs), exterior alarm issues, and the failure of the testing program to identify these issues. The subsequent FY 2005 YSO S&S Survey found additional examples of the same problems. The OA Inspection also identified the need for improvement in the BWXT self-assessment program. This is another area previous identified by YSO during the period. A robust self-assessment program should be put in place to assure self identification and corrective action for issues such as these.

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#### PERFORMANCE BASED INCENTIVES

## I. MISSION

#### A.1 Compressed Air Upgrades Project

All CAUP PBIs have been completed in a timely manner. The critical decision (CD) 3B package was approved by NNSA Headquarters (HQs) in July 2005. Construction activities have begun. The proposal received for the chiller refrigerant conversion contract was awarded on July 6, 2005 ahead of the PBI schedule of July 11. Procurement of the long lead items (compressors, dryers, heat exchangers, and electrical switchgear) was awarded to the design/procure vendor in April.

## A.2 Steam Plant Life Extension Project

The project started out with one FY2005 PBI, Award Architecture and Engineering (A/E) subcontract for Title I Design for the SPLE project by June 1, 2005. The AE contract award was timely however \$4.2M for the Steam Plant Wastewater Treatment of workscope had to be taken out of the estimate to reduce AE bids to within project funding. Thus, the AE contract award did not include all the SPLE project workscope as planned to be performed by this original PBI and is determined be partial completion. Subsequently, to recover lost fee, BWXT Y-12 recommended two additional incentives, 1) Award A/E subcontract for the Title I design for the SPLE Project by June 1, 2005 and 2) Issue the completed Title I AE design package for the SPLE project as specified in the AE contract by September 2, 2005. The design is to be performed by BWXT for a separate CD-2B/3B approval. A revised PBI was requested in July to capture the remains of the partial award by incentivizing Title I design to be complete by September 2, 2005. The revision was accepted by the Federal Project Director and this PBI has been met. Since the AE Title I Design revealed a \$10M estimate over the CD-1 preliminary baseline during the August Quarterly Review, NA-50 requested that the project show a total project cost of \$59M rather than making scope cuts to fit a \$50.8M funding constraint. BWXT Y-12 completed the CD-2A/3A package development with submittal for review and approval on September 8, 2005. On two occasions there was an increase in OPC to cover increased cost for the project, up to \$700K. Project SP1 and CPI for TPC are both on track.

## A.3 Exemption 2

BWXT HEUMF Project Team has performed overall in an acceptable manner and completed all intermediate milestones on schedule and received 100% of the associated PBI allocated fee. The BWXT team has been proactive in managing the DBT change into the on-going construction activities and other engineering changes to the construction subcontract. BWXT along with CBJV have created a very positive working relationship focusing on the shared overall project cost, schedule, and scope goals. BWXT/CBJV began the facility construction activities at the beginning of the fiscal year 2005 and have taken the facility construction to approximately 30 percent complete including 41K cubic yards of mass concrete placement, 7K cubic yards mechanical/electrical building slab/wall concrete placement, and 70% of the field utility work even with multiple obstacles such as 120% above normal rainfall from September through December 2004, 2004 Design Basis Threat change, numerous design issues, and multiple unforeseen site conditions. Areas of concerns to focus in FY 2006 are testing/start-up/readiness planning and execution; minimize engineering change notices, quality assurance documentation, quality/timely title III support, and management of lessons learned into and from the project.

## A.4 Exemption 2

The project failed to meet the PBI associated with the April 30, 2005 CD-4 milestone. Contributors to this included the FY2003/2004 project team's failure to identify and plan for the correct number of procedures and training, and less than adequate support by the Y-12 functional organizations to support the readiness requirements. Even though the project baseline schedule will complete six months past the baseline April 30, 2005 date, the project team will bring the TEC, OPC, and TPC cost baselines within the approved CD-2 baselines. This is primarily associated with

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strict cost account management and ownership by the BWXT project manager and business manager. Overall this project has been a success considering that the design, construction, and start-up/readiness of a hazardous chemical facility will be completed within a three and half years.

Similar to PPtF, the Dryer/Mold loading project team has performed in a very responsive and proactive manner. Nonetheless, the project failed to meet the PBI associated with the April 30, 2005 date. The root cause associated with the delay is associated with the lack of planning/integration built in the project's baseline and prudent execution by all the Y-12 organizations and interfaces necessary to complete the construction, testing, start-up, and readiness activities.

A.6 Electrical Distribution System Upgrade

The Electrical Distribution Upgrade Project has been deferred due to a reduction of FIRP Funding. Prior to deferment, the Conceptual Design Report was completed and the System Requirements Document was updated. This project is planned for development and execution in the out years under line item Utility Distribution Project.

A.7 Potable Water System Upgrades

Development of the CD-1 Selection of Alternatives and Cost Range package was completed by BWXT on the PBI date June 16. This PBI was successfully met. Timely and quality requirements of the PBI measure are also determined by its ability to meet HQs concerns and approval criteria. Although the IPR determined that the documentation for the project was of good quality, the CD-1 package approval has been delayed by NA-50 until the planned piping inspections are complete.

A.10 Demolition and Deactivation of Excess Facilities

Excess facility demolition activities associated with the Facilities and Infrastructure Recapitalization Program for FY 2004 are divided into task releases. Each task release contains a number of excess facilities to be demolished. All demolitions planned for FY 2005 were accomplished.

## A.13 Legacy Capital Projects

BWXT Y-12 has successfully completed closure of the Stockpile Management Restructuring Initiative Project and has received approvals from both the Y-12 Site Office and NA-124. As of the end of this fiscal year the 3500-Ton Hydraulic Press Project, FCAP Program, has yet to complete closure of litigation issues and as a result has prevented the final acceptance and closure of both this project and the RPS/DS II, 2,000 kVa Substation project.

## B. Technology Insertion (Ops and Security)

B.1 Technology Insertion - Ops

The three Enhanced Surveillance Campaigns PBI items were successfully met. They were to complete aging assessments for the B61 LEP Certification, deploy 3<sup>rd</sup> suite of CSA diagnostics for surveillance, and provide improved component aging models for CSAs.

BWXT Y-12 did a good job of meeting the ADAPT PBI incentives, successfully completing 8 out of the 9 items. These include: development of a prototype automated user interface for the EB weld inspection station; complete ACMM methods development for part families 1, 2 and 3; down selection of optical materials for second generation High Energy Digital Radiography (9 MeV) project; develop analytical chemistry techniques for analyses of impurities in Y-12 materials; complete development of a workflow-based multi-program Electronic Data Capture auditing system; complete an instrumented casting experiment using VIM heating: complete chip management assessment for agile machine tools; complete evaluation of off the shelf non-contact probe; and make a project collaboration site operational for digital radiography. The contractor partially completed the item to install, test and

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checkout the new dissolution system for the development SDOR process. Although there was an agreement with BWXT that all ten steps in the Test Plan would be required in order to meet this milestone, only one of the ten steps was completed.

There were seven Stockpile Readiness Campaign (SRC) milestones. Performance could have been improved in this area. Of the seven, two were missed.

## Exemption 2

The milestone to turnover to operations an additional Leak Test Station Upgrade was missed because the work was not completed due to higher priority work. The milestone to complete initial operational melting runs with the microwave prototype caster was also not completed. The required number of successful runs was 15, and the contractor only completed three successful runs. The contractor spent over twice the estimated amount, and the results were in conclusive.

#### B.2 Technology Insertion - Security

Complete work scope to implement new technologies that reduce reliance on manpower (Protective Force) or to advance operational efficiencies: Start-up operation of the tele-present remote firing platform.

The criterion was met.

#### B.3 Dissassembly Glovebox

Demonstrate satisfactory operation of the Disassembly Glovebox by March 31, 2005. Lingering issues with operational changes resulted in a late start in initiating readiness activities.

### B.4 Metalworking Equipment

Initiate production usage of Metalworking equipment by March 31, 2005. This milestone was missed due to problems with ancillary equipment impacting startup schedules.

## C. FIRP Projects and Planning

Accomplish high priority facility upgrades planned within the Facilities and Infrastructure Recapitalization Program (FIRP). These projects include those started in FY 2004 and wrapping up in FY 2005 as well as new projects initially authorized for this fiscal year. The program continued to maintain the high level of performance from the previous year with over \$20M in deferred maintenance retired from the FY 2003 baseline.

#### D. Enriched Uranium Deliverables

BWXT Y-12 shipped material to all customers in accordance with customer shipping schedules and has satisfied customer requirements and contractual obligations. The work scope included processing and preparing for shipment a substantial amount of HEU and LEU metal and HEU oxides to support the NN and NR program, and deliveries made to foreign governments for the foreign research reactor program.

#### E. PCD Requirements

#### E.1 B61 Alt 357 LEP

The FY 2005 performance measure for this metric was the completion of B61hardware and other technical support according to the baseline plan. This PBI was partially met. Some of the test units were successfully completed and some were not. The inability to weld to the LANL specification contributed to not meeting some of the milestones. BWXT Y-12, working closely in partnership with LANL, continued to make significant progress on an assembly

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weld. Five (5) welds were made in the production facility and resulted in the successful transfer of weld development parameters from the development welder to the production welder. The last of the five production welds contained no porosity.

Following corrective maintenance and decontamination of QE equipment, a number of B61-3 units were disassembled to mine parts in support of new build requirements. The effort expended by BWXT Y-12 represented a doubling of the work originally planned and was accomplished with significant effort and overtime. Partial payment was made in accordance with the actual number of units disassembled.

## E.2 Dismantlement

The FY 2005 performance measure for this metric was the complete disassembly of weapons hardware according to the baseline plan.

BWXT Y-12 completed one hundred (100) percent of the required W56 and the incentivized B61 units. The only baseline units not completed were the non-incentivized "stretch B61" units.

## E.3 Joint Test Assemblies (JTAs)

The FY 2005 performance measure for this metric is the on time production and shipment of JTA's and other high priority weapons hardware according to the incentive plan table.

The contractor completed all the JTA work except for the 12 W87-4 JTAs (interim).

## E.4 Quality Evaluation

The FY 2005 performance measure for this metric is the completion of eleven (11) Phase 1's, twelve (12) Phase 2's, eleven (11) Phase 3's, thirteen (13) QE Reports, and fifty-six (56) NDE screening units by the end of FY 2005.

The contractor completed all the baselined QE work.

## F. HEU Disposition Planning and Execution

BWXT Y-12 completed production work on the Surplus Metal Disposition Project; completed work required to prepare to execute the exchange of HEU currently under international safeguards at Y-12; completed material size reduction of a specific quantity of Super Kukla fuel material; and submitted the Safety Analysis Report for the ES-3100 to NNSA and NRC and released the contract for procurement of the ES-3100 shipping container production units. All milestones were met.

#### G. Increase NNSA Nuclear Nonproliferation Work

FY 2005 funding levels for DNN programs have increased by more than 10% over the FY 2004 levels, successfully completing this pbi.

### H. Material Recycle and Recovery

Material Recycle and Recovery contains targets for startup of OCF and production targets for lithium, wet chemistry, and reduction. While OCF targets slipped throughout the year, lithium production goals were met as well as those for reduction.

## I. Increase Complementary Work

Measure 1: BWXT Y-12 met this milestone successfully by completing over 15 PIFs and proposals.



Measure 2: BWXT Y-12 met this milestone successfully. Over \$28.3 M of funding for Complementary Work was received.

### II. OPERATIONS

#### A. DP Comprehensive Materials Disposition

All evidence reviewed and validated. BWXT successfully completed all elements contained in this PBI.

## B. Engineering Improvements

B.1 Safety Basis

All elements successfully completed.

## B.2 Engineering/Configuration Mgmt./Vital Safety Systems

All elements successfully completed except for one. The as-built drawings as submitted contained errors and a reduction in fee was made.

## C. Beryllium

- C.1 Beryllium Capability Project (deleted)
- C.2 Beryllium Characterization Sampling
- C.3 Excello Machine Retrofit

Complete beryllium characterization sampling on three buildings in accordance with the priority and estimated project scope transmitted in the April 1, 2004 correspondence from L.L. Reed to D.J. Dearolph entitled Contract DE-AC05-00ORR22800, Response to the Final Report of Beryllium Exposure Cases Discovered at the North Las Vegas Facility of the National Nuclear Security Administration, by December 31, 2004. BWXT Industrial Hygiene completed beryllium characterization of the three of thirteen remaining targeted facilities pursuant to the Performance Based Incentive (II.C.2.), measure 1. on December 22, 2004. A review of the characterization data was performed by YSO and the PBI completion was approved on 1/31/05.

lssue formal characterization reports for the FY 2004 and FY 2005 characterization by March 31, 2004. The need for any follow-on sampling will be communicated in the reports. - BWXT provided on March 22, 2005 the beryllium characterization report for 13 building/locations agreed to under the Performance Based Incentive (PBI), II.C.2.). The characterization Reports were reviewed and determined to be of acceptable quality. The related PBI (II.C.2.) was subsequently determined satisfactorily completed and the full fee payment recommended on 4/12/05. This PBI was completed in a noteworthy fashion. A memorandum was transmitted by YSO to the Acting Deputy Administrator for Defense Programs, NA-10, on May 26, 2005 to provide closure to actions requested by the Administrator for the National Nuclear Security Administration in August of 2003.

## D. Nuclear Criticality Safety & Container Improvements

- 1. PBI Items for prototype development for wet & dry cans, EUO can dolly, and the 20" & 24" birdcage designs were met in a noteworthy manner.
- 2. PBI items for a hands on practical NCS training module for fissile material workers, and CAAS reduction analysis efforts were also noteworthy.
- 3. The PBI for implementation of GraFlCs in an area of the 9720-5 warehouse as specified in metric was not acceptably met. Evidence submitted did demonstrate a good test of the system, but unfortunately the system was not able to be implemented per metric. EUO chemical areas GraFlCs implementation was considered acceptable for the PBI, though it certainly needs additional work.



## E. Fire Protection

Completion of the PBI for development and implementation of fire department emergency preplans was validated. A plan for testing the fire water system, including the individual connections to the City water supplies was developed, completed and validated.

## F. Safeguards and Security

F.1 Closure of Specific S&S Corrective Action Plans

BWXT Y-12 will complete and obtain YSO verification that Safeguards and Security (S&S) corrective action plans (CAP) due for completion before September 30, 2005, are completed within the month of the end closure date listed in the NNSA YSO-approved CAPs.

All but three corrective action plans were completed in the scheduled closure month. This correlated to 85% completion in accordance with the PBI criteria.

F.2 Accelerated Completion of OPSEC Assessments

- 1. Complete FY 2005 OPSEC Plan scheduled assessment of the 9212 Category I Facility by 9/30/05.
- 2. Conduct an OPSEC assessment for the Potential of Release of Unclassified Sensitive Information through Vendors and Offsite Subcontractors in the Performance of Procurement Sanctioned Acquisitions by 7/31/05.
- Conduct an OPSEC assessment of Possessing Contractors evaluating the Handling and Protection of Classified and Unclassified Sensitive Matter by 7/31/05.

The criteria for this PBI were met.

F.3 Implement New Barriers with Technology Enhancements

Complete the initial deployment of two new security barriers to support the layered engagement concept. Complete the west fort project by April 15, 2005. Complete the south ridge project by September 30, 2005.

The criteria for this PBI were met.

F.4 Electronic System for Centralized ACREM Accountability

Implement an electronic A-CREM accountability system by September 1, 2005.

By the end of this performance period, BWXT was running the automated ACREM system in parallel with the paper-based system. All pieces of ACREM were in the system and the first inventory was generated on August 31, 2005. On September 28, 2005, YSO received for approval a request for electronic receipting as required by DOE M 471.2-1C. YSO approved this on October 6, 2005. As such, BWXT can begin using only the electronic system.

Based on this review, this system is far better than the paper-based system Y-12 has used for years. This is the first time Y-12 has the ability to manage ACREM from a central location. This system, except for the level, category, and caveat, meets DOE M 471.2-1C requirements.

F.5 Classified Parts

# 1. Exemption 2

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2. Load 70 box barriers with excess and/or legacy classified parts, tooling, fixtures, ect, by 6/30/05.

The two vault-type rooms were completed. Seventy box barriers were loaded by June 21, 2005.

F.6 Protected Area Vehicle Entry Reduction

Implement a process for reducing PA vehicle entries. The goal of this PBI is to reduce that number to 3650 monthly entrances by September 1, 2005.

Substantial effort was again placed into reducing the number of vehicles into the PA; however, the goal was not achieved for at least two months of the rating period.

## G. NMC&A

#### G.1 NMC&A Process Monitoring

- 1. Perform process study in MBA 77 for Code 80 glove box by January 31, 2005.
- 2. Perform process study in MBA 77 for the oxide dissolver by February 28. 2005.
- 3. Perform process study in MBA 77 for Reduction by March 31, 2005.
- 4. Design process units for MBA 48 by September 1, 2005.
- 5. Design process units for MBA 69 by September 15, 2005.

The criteria for this PBI were met.

G.2 SNM Primary and Secondary Location Indicators

Maintain the Primary and Secondary Location indicators in the site's accountability system (DYMCAS) to reflect the physical location of special nuclear material with a minimum accuracy rate of evidencing and item's location within the last 24 hours. Implement changes by July 21, 2005.

Primary and secondary locations were identified and implemented for all Category I material balance areas that were required to perform an inventory during the fiscal year. Locations for Category II material balance areas were also implemented. All of these actions were completed as scheduled.

G.3 NMC&A Tamper-Indication Device (TID) for Safe Bottles

Develop an approved tamper indicating device application for safe bottles and apply a TID to one safe bottle by July 31, 2005.

A TID was identified, tested, approved, and applied as scheduled.

## H. Maintenance

H.1 Deferred Maintenance Stabilization Goal

All 5 performance measures (i.e., FCAS inspections and reports, stabilize DM) were completed, validated and documented in YSO Assessment Reports.

H.3 Reliability Centered Maintenance Program

All 3 performance measures (i.e., Revise AMP, Perform 6 RCM Analysis, and complete 90% PMs) were completed, validated and documented in YSO Assessment Reports.

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## H.4 Scheduled Outage

All 9 building outages conducted in 16 facilities were not completed. The only outage that was not adequately completed was in Bldg 9215 & 9998 because there were 3 SSC Grade 1 corrective maintenance jobs left open, Field Calibrations or ORMC did not meet the minimum of 50 or 25 items respectively, nor the 75% criteria. The corrective maintenance work that was not completed was due to the inability to get required parts in during the outage period. This is documented in YSO Assessment Report REP-OM-9/15/2005-31353.

## H.5 Y-12 PrYde Program (includes Clean Sweep)

Identify, clean, and maintain (8) areas within the Y-12 Complex utilizing the appropriate mechanism (i.e., recycling, excessing, clean sweep program, or disposing of material.) Previously cleaned areas will be inspected September 1-5, 2005 to confirm that established standards have been maintained to the grade of "Good" or higher. Perform housekeeping inspections of all occupied facilities on the Y-12 Complex and post each facility with its housekeeping grade. Develop training for Y-12 site workers on their housekeeping responsibilities and BWXT Y-12 expectations.

BWXT performed the housekeeping inspections of all occupied facilities and posted the results. Likewise, training for Y-12 site workers has been developed. Eight areas were satisfactorily cleaned. The clean up of these areas reduces the potential for environmental problems and improves the overall visual aesthetics of the site.

H.7 Utilities CONOPs in Technology Development Facs.

Completed satisfactorily.

H.8 Utilities CONOPs in Manufacturing Facilities

Approved Utility Roundsheets and labeling for Category 2 Nuclear Facilities. The scope of the labeling effort was not met. The total labeling effort was 11,732 labels for all the identified Category 2 Nuclear Facilities. The total labeling effort completed about 3000 labels in all the Category 2 Nuclear Facilities identified. A reduction of two-thirds in fee was made.

### I. Quality Improvements

- I.1 ORMC Calibration Turnaround Time
- I.2 Improved Software Quality Assurance

The criteria for both these elements were successfully completed.

#### J. Enhanced CONOPs Floor Surveillance Program

Completed satisfactorily.

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