



June 1, 2007

Mr. Michael Holland  
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Brookhaven Site Office  
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Upton, NY 11973

**Subject: INTEGRATED SAFETY MANAGEMENT (ISM) FISCAL YEAR 2006  
EFFECTIVENESS REVIEW**

Dear Mr. Holland

This report serves to document the fulfillment of Brookhaven Science Associates' (BSA) requirements to update and submit, for DOE approval, safety performance objectives, measures, and commitments. These requirements are established by the DEAR Clause 970.5223-1 in BSA's contract as follows:

- 970.5223-1 – Integration of Environment, Safety, and Health (ES&H) into Work Planning and Execution (e): *“On an annual basis, the contractor shall review and update, for DOE approval, its safety performance objectives, performance measures, and commitments consistent with and in response to DOE’s program and budget execution guidance and direction. Resources shall be identified and allocated to meet the safety objectives and performance commitments as well as maintain the integrity of the entire system. Accordingly, the system shall be integrated with the contractor’s business processes for work planning, budgeting, authorization, execution and change control.”*

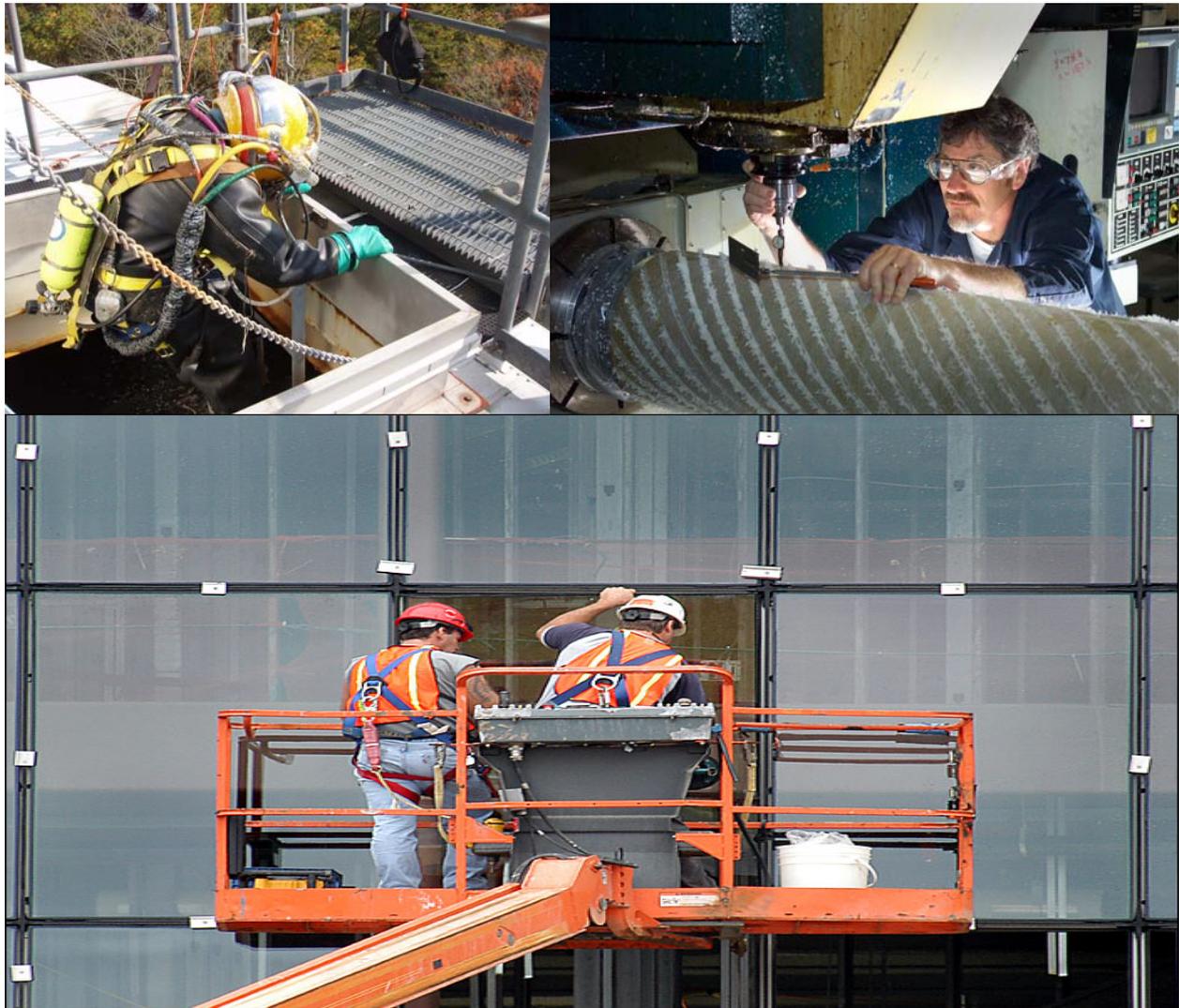
Enclosed is the Brookhaven National Laboratory Annual Integrated Safety Management FY 2006 Effectiveness Report.

Should you have any questions, please contact Mr. Mike Bebon x3434.

Sincerely,

Sam Aronson  
Director

**cc:** F. Crescenzo, SC-BHSO w/o attachment  
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# Annual ISM Effectiveness Review

June 1, 2007



Brookhaven Science Associates  
U.S. Department of Energy



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## 1.0 Introduction

This report serves to document the fulfillment of Brookhaven Science Associates' (BSA) requirements to perform an annual Integrated Safety Management (ISM) effectiveness review. These requirements are established by the DEAR Clause 970.5223-1 in BSA's contract as follows:

- 970.5223-1 – Integration of Environment, Safety, and Health (ES&H) into Work Planning and Execution (e): *“On an annual basis, the contractor shall review and update, for DOE approval, its safety performance objectives, performance measures, and commitments consistent with and in response to DOE’s program and budget execution guidance and direction. Resources shall be identified and allocated to meet the safety objectives and performance commitments as well as maintain the integrity of the entire system. Accordingly, the system shall be integrated with the contractor’s business processes for work planning, budgeting, authorization, execution and change control.”*

BSA meets the objectives to establish a DOE-approved Safety Management System to integrate ES&H into work planning and execution by implementing its Integrated Safety Management System (ISMS) Program Description. The Program Description was originally approved in 1999 and is updated and maintained as required. It has been updated several times since its original approval.

The requirements to establish annual safety performance objectives, performance measures and commitments for DOE approval are fulfilled by the process to establish the fiscal year (FY) contract performance evaluation and measurement plan (PEMP) goals and objectives. The policy for implementing performance-based management includes the following guiding principles:

- Performance objectives are established in partnership with affected organizations and are directly aligned to DOE strategic goals;
- Resource decisions and budget requests are tied to results; and
- Results are used for management information, establishing accountability, and driving long-term improvements.

In addition to the FY PEMP goals and objectives, BSA develops safety performance objectives, performance measures, initiatives and commitments that originate from the FY Operations Integrated Assessment Process (*See Appendix A*).

The operations integrated assessment report presents a review of status, progress, and trends of performance across a broad spectrum of BSA operations at the end of the fiscal year. The results of the operations integrated assessment serve as an input to the FY Operations Business Plan (*See Appendix B*), which presents the activities that Operations will undertake in the upcoming FY.

The Operations Integrated Assessment Process is continuous during the fiscal year consisting of a series of monthly and quarterly reviews (e.g. BSA Risk Committee reviews, monthly project and financial reviews, quarterly PEMP and Management System reviews), various structured feedback meetings (ES&H Coordinators, Work Control Managers' meetings, Management Work Observations), and out-briefings and reports of specific investigations, reviews, appraisals, and assessments. A stream of performance measurement data beyond those associated with the PEMP is also analyzed throughout the year by Operations organizations. Finally, data associated with the Events and Issues Management Process (ORPS, SC-BNL, Causal Analysis, Lessons-Learned) are reviewed and trended.

On an ongoing basis, these inputs are analyzed by the appropriate Operations line managers and management system stewards to determine if immediate corrective actions are indicated or further assessment/analysis is needed to better understand a potential problem before taking action. Follow-on actions are taken as appropriate.

At year-end the above inputs and status of actions taken and planned are rolled-up for further analysis and for input to the annual planning process, and establishes the annual ISM effectiveness review process.

Two of the most significant end-of-year inputs are the BSA Corporate Assurance Process and the Laboratory's Self-Evaluation of its performance against targets established in the DOE Performance Evaluation Measurement Plan (PEMP) for the FY. These inputs represent performance areas that are important to the BSA Board of Directors and the customer, the DOE Office of Science.

These two key assessments are combined with the continuous performance assessment data at year-end, and a roll-up and analysis are performed by Operations senior management. Results are communicated to Laboratory senior management as well as input for the development of the Operations Business Plan for the coming year. Follow-on actions identified in the Business Plan are flowed down into the goals of the direct reports to the Deputy Director for Operations and the cycle begins again for the coming fiscal year.

## **2.0 ISM Declaration**

BSA completed a comprehensive FY 06 Year-End Operations Organization Integrated Assessment (*See Appendix B*). The report identified areas where program improvement is needed and included evaluations of corrective actions from previous assessments and other feedback, continuous improvement and follow on activities. Based on this integrated assessment, BSA declares that its ISMS is effectively implemented at the institutional, facility- and activity-levels. However, the review identified several areas in need for improvement; they include work planning and control system integrations, safety performance [Total Recordable Case (TRC) and Days, Away, Restricted or Transferred (DART)] and Emergency Management program upgrades.

Subsequent to the development of the operations integrated assessment process, BSA developed a comprehensive, holistic, and sustainable plan for improvement that serves as the centerpiece for performance improvement for Brookhaven National Laboratory (BNL). This plan, entitled, "BSA ISM/Safety Improvement Project Plan, Appendix C of the operations business plan, is responsive to the findings of multiple internal and external assessments of the implementation of BSA's ISMS.

The ISM/Safety Improvement Project Plan is updated and revised periodically as new information becomes available and as major actions are completed. As such, the plan is a living document and serves as the key document that describes the status of ISM implementation and improvement. The plan is linked to BNL's strategic objectives through the implementation of the FY Operations Business Plan, and is refined and updated to reflect BNL's institutional objectives and goals. The operations business plan provides the framework for developing and documenting annual performance objectives, measures and commitments.

### **3.0 ISMS Program Improvements**

BNL conducted several activities in FY 2006 that improved the adequacy and effectiveness of the ISMS, including the following:

- Showed improvement toward achieving DOE/SC's interim injury rate goals, exemplified by working 1.5 million hours without a lost workday case
  - The number of Days Away, Restricted, or Transferred (DART) cases in FY 2006 was reduced by 33% compared to FY 2005.
  - The number of Total Recordable Cases (TRC) in FY 2005 was reduced by 8% compared to FY 2005.
- BNL became the first DOE National Laboratory certified to the revised International Standards Organization (ISO) 14001: 2004 Environmental Management System (EMS) Standard.
- BNL became the first DOE National Laboratory certified to the Occupational Health and Safety Assessment Series (OHSAS) 18001 Standard on December 19, 2006.
- Launched a new, web-based Lessons Learned (LL) Program modeled after the DOE Complex system.
- Implemented an enhanced Web-Requisition ISM Flowdown Process for Subcontractors and Vendors.
- Improved institutional feedback and improvement planning processes by implementing management system-based corporate assurance, operations integrated assessment, and quarterly performance reporting processes.

- Implemented an Operations Management Forum (OMF). The OMF utilizes data, experience, and expertise of BNL senior managers and subject matter experts to inform Laboratory Management of emerging risk limits, new opportunities, and the ability to maintain operations within established risk limits.
- Enhanced event/issues management process that strengthen event and issues fact-finding, causal analysis and corrective and preventive action development, implementation and tracking.
- Trained and qualified approximately 100 BNL staff in barrier analysis and causal analysis techniques.
- Implemented a Safety Management Leadership and Observation program for Level I, Level II and Level III Managers.
- Rolled-out a web-based requirements management verification process.

#### **4.0 ISMS Areas for Improvement**

The ISM/Safety Improvement Project Plan described earlier in this report provides an integrated approach to address BSA's efforts to achieve best-in-class ES&H performance. Some key observations from targeted management system assessment activities identified for improving the ISMS included the following:

- Work Planning and Control
  - The Collider-Accelerator Department Arc Flash incident highlighted a weakness in the pre-job briefing process for troubleshooting activities. Similar issues with pre-job briefings were identified in the electrical safety effectiveness review.
  - Expectations of the work planning and the Job/Facility Risk Assessments have not been consistently implemented and understood by personnel conducting work planning.
  - Operations work planning and control relies heavily upon "skill of the worker" without having adequate mechanisms to ensure that the individuals relied upon to make key decisions have the appropriate knowledge.
  - Several management systems were identified as having overlapping/inconsistent hazard identification/mitigation processes
- Facility Safety
  - The Gap Analysis for 10 CFR 851 revealed that compliance gaps identified for several of the functional areas exist, and that corrective action plans need to be developed, approved, and resource loaded.
  - Several of the Laboratory's Authorization Basis Documents (ABDs) were outdated and in need of revision. Extent of condition and causal analyses for ABDs and nuclear safety management is required.

- Integrated Assessment Program
  - The requirements for self-assessments and external assessments need to be better integrated across line organizations and the institution to avoid duplication of assessment efforts.
  - A Third Party Review Team made recommendations for improvement to BNL's strategic direction for the Independent Oversight (IO) function.
- Quality Management
  - A Third Party review indicated weaknesses in BNL's Calibration program, and the need for an extent of condition review.
- Radiological Control
  - A DOE assessment identified improvement opportunities for conducting inventories of Material Balance Areas.
  - Personnel monitoring exhibits an "expert-based" system rather than a "process-based" system.
  - The management system does not contain sufficient policy and implementation direction on the use of containments and glove boxes for contamination control purposes.
- Worker Safety and Health
  - The Laboratory's TRC and DART performance goals were not achieved.
  - Programmatic gaps were identified in electrical safety, pressure safety, material handling, and subcontractor flowdown.
  - Verification and completion of Records of Decisions.

**Appendix A: FY 06 Operations Organization Integrated Assessment  
Report**

## **Appendix B: FY 07 Operations Business Plan**

Fiscal Year 2006

Brookhaven National Laboratory

# Operations Organization Integrated Assessment Report

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## 1.0 Executive Summary

The Operations Organization was successful overall at meeting its objectives in FY06. Significant achievements included the completion of the Research Support Building on time and within budget, with no DART cases, as well as the successful management of the CFN conventional construction with only one DART case to date.

Other notable accomplishments included the PERT review of Procurement and Property Management, which was highly successful despite staffing shortages and a heavy workload in this department [for most of FY06]. A new Emergency Operations Center (EOC) was designed and constructed ahead of schedule and was successfully used for drills in FY06. The Counterintelligence Office achieved a rating of satisfactory on their recent inspection (the past three inspections were unsatisfactory). The Office was expanded and designated as the new Northeast Regional Counterintelligence Office with added responsibility for several other DOE sites. This new Northeast Regional Counterintelligence Office (NRCO) was successfully launched, and positive relationships have been established with the supported sites. The recruiting effort for the Senior CI Officer (SCIO) to head the office continues.

The BSA corporate assurance process provided oversight of the entire Operations organization throughout the year and concluded from their reviews that two areas need further management attention: safety performance and nuclear safety documentation.

The Lab's performance on the DOE Performance Evaluation Measurement Plan (PEMP) goals was primarily positive. The Operations organization supported seven goals in the PEMP and owned most of the objectives in criteria 5-8. Self-evaluation of the "supported" goals indicates 100% green (objectives met or exceeded for all seven goals). Based on the Laboratory's self-evaluation, the roll-up grades for the "owned" objectives were 2 Bs, a B+ and an A+. The primary areas needing additional emphasis were Procurement (primarily staffing) and Emergency Management (delays in preparation of Hazard Analyses).

Beyond the objectives, measures, and targets in the DOE PEMP, Operations organizations monitor key performance metrics as part of their self-assessment programs. These were predominantly "green" for FY06, with noteworthy performance in Electrical System Reliability (no unplanned outages occurred).

The wide variety and complexity of projects and initiatives for FY06 was challenging, and the Operations staff met the challenge. Several key construction projects – the ATLAS computing upgrades, the Research Support Building, major laboratory upgrades for a new member of the research staff, as well as development of the satellite chilled water plant, to name a few, were successfully completed on time and within budget. Work also progressed on the development of necessary documentation to achieve an Earned Value Management System (EVMS) certification from DOE.

In the safety and environmental area, the work to achieve OHSAS registration for the Phase III organizations (and as a result, the entire Lab) was substantially completed by the end of FY06. Worker observation training and work observations by senior management were well underway by year-end. Corrective actions and initiatives in support of the Lab's Integrated Safety Management (ISM) program were developed into a formal project and a dedicated project manager was appointed. At the end of FY06, many milestones were completed ahead of schedule and by year's end the project was 53% complete. Preparation of BNL's Worker Safety and Health Program Description for 10CFR851 and the associated "Gap Analysis" was also a focus in FY06; resource constraints to support this effort remain a key management issue.

Challenges included DOE's shift in project management philosophy, which forced EM to cancel a major BGRR procurement when CD-1 and 2 was not obtained by DOE as anticipated. Work to develop the final remedy for the HFBR continued as well as work on re-baselining for both reactors.

The Facilities & Operations and Environmental Projects divisions failed to achieve safety performance (TRC and DART) targets. Progress was slower than planned in managing the Emergency Management Program Upgrades. Contract negotiations with DOE to secure additional fee support for the HFBR reactor work were unsuccessful. Another concern is that, based on year end analysis, there are inconsistent methods of capturing operations-related assessment activity reported in FY06 or early in FY07.

The 17 Management Systems owned by Operations were assessed quarterly by their Stewards. A summary of their condition rating for each of the four quarters of FY06 is provided below in Table 1-A.

Management System	1 <sup>st</sup> Quarter	2 <sup>nd</sup> Quarter	3 <sup>rd</sup> Quarter	4 <sup>th</sup> Quarter
Acquisition Management	Yellow	Yellow	Yellow	Yellow
Property Management	Green	Green	Green	Green
Work Planning & Control	Yellow	Yellow	Yellow	Yellow
Administrative Support	Green	Green	Green	Green
Emergency Preparedness	Yellow	Yellow	Yellow	Yellow
Emergency Response	Green	Green	Green	Yellow
Facility Operations	Green	Green	Green	Green
Real Property Asset Mgmt (RPAM)	Green	Green	Green	Green
Security	Green	Green	Green	Green
Environmental Management	Green	Green	Green	Green
Facility Safety	Yellow	Yellow	Yellow	Red
Hazardous Material Transportation	Green	Green	Green	Green
Integrated Assessment Program	Yellow	Yellow	Green	Green
Quality Management	Yellow	Yellow	Yellow	Yellow
Radiological Control	Yellow	Yellow	Green	Green
Standards-Based Management	Yellow	Yellow	Yellow	Yellow
Worker Safety & Health	Green	Yellow	Yellow	Red

Table 1-A.

## 2.0 Integrated Assessment Methodology

This report is one of the two principal outputs of the FY 2006 Operations Integrated Assessment Process. This report summarizes performance across a broad spectrum of the Operations organization and presents a snapshot of status, progress, and trends at the end of the fiscal year. Follow-on actions are recommended within the document for consideration in developing the Business Plan for the following year.

The other output is the Operations Business Plan that presents the results of the planning process that develops the activities Operations will undertake in the upcoming FY based on its obligations flowing from the Annual Laboratory Plan and the analysis of the past year's performance.

The Operations Integrated Assessment Process is continuous during the fiscal year consisting of a series of monthly and quarterly reviews (e.g. BSA Risk Committee reviews, monthly project and financial reviews, quarterly PEMP and Management System reviews), various structured feedback meetings (ES&H Coordinators, Work Control Managers' meetings, Management Work Observations), and out-briefings and reports of specific investigations, reviews, appraisals, and assessments. A stream of performance measurement data beyond those associated with the PEMP is also analyzed throughout the year by Operations organizations. Finally, data associated with the Events and Issues Management Process (ORPS, SC-BNL, Causal Analysis, Lessons-Learned) are reviewed and trended.

On an ongoing basis, these inputs are analyzed by the appropriate Operations line managers and management system stewards to determine if immediate corrective actions are indicated or further assessment/analysis is needed to better understand a potential problem before taking action. Follow-on actions are taken as appropriate.

At year-end the above inputs and status of actions taken and planned are rolled-up for further analysis and for input to the annual planning process.

Two of the most significant end-of-year inputs are the BSA Corporate Assurance Process and the Laboratory's Self-Evaluation of its performance against targets established in the DOE Performance Evaluation Measurement Plan (PEMP) for the FY. These inputs represent performance areas that are important to the BSA Board of Directors and the customer, the DOE Office of Science.

These two key external assessments are combined with the continuous performance assessment data at year-end, and a roll-up and analysis are performed by Operations senior management. Results are communicated to Laboratory senior management through the Director's retreat process and through the development of the Operations Business Plan for the coming year. Follow-on actions identified in the Business Plan are flowed down into the goals of the direct reports to the Deputy Director for Operations and the cycle begins again for the coming fiscal year. A diagram of the process is shown below in Figure 2-A.

# THE OPERATIONS INTEGRATED ASSESSMENT AND PLANNING PROCESS



### 3.0 Brookhaven Science Associates Corporate Assurance Process Results

The BSA Corporate Assurance process includes the use of four risk committees and an Assurance Council. All of these groups are staffed by BSA Board members and internal and external consultants as appropriate. Figure 3-A below illustrates the BSA Assurance Process. Two of these committees interacted with Operations in FY06. These were the Operations Risk Committee and the Audit & Finance Risk Committee. The risk committees use a risk metric and management assessment as the basis structure of their fact finding and assessment activity.

Each committee provided a memorandum to the BSA Assurance Council in late Fall 2006. These memorandums were used by the Assurance Council to prepare the contract Assurance Letter to DOE/BHSO.

## BSA Assurance Model

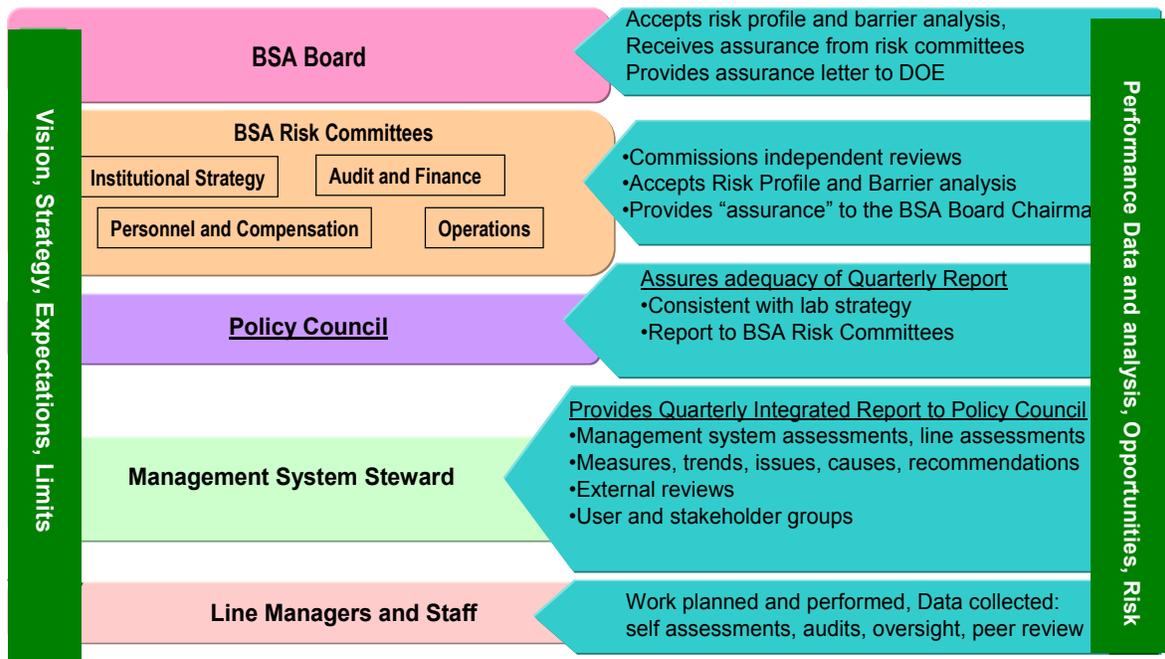


Figure 3-A. BSA Corporate Assurance Process.

The Operations organizations reviewed these letters to determine if any additional assessments or corrective actions are needed in FY07 to fully address the committees' concerns. A summary of the key issues raised by the two risk committees and the FY07 follow-on activities needed to address them is provided below.

### 3.1 Operations Risk Committee

The Operations Risk Committee uses a series of risk-based metrics and a discussion of emerging risks as the basis for its assurance activities. The metrics are intended to diagnose the “health” of those Laboratory processes that are the principal barriers to high risk/high consequence (unacceptable) events. These “Barrier Processes” are embedded within BNL’s Management Systems and the metrics are used to assess the highest priority barrier processes (see Figure 3-B). The status of the metrics and any emerging risks are reported to the committee quarterly, or prior to each BSA board meeting.

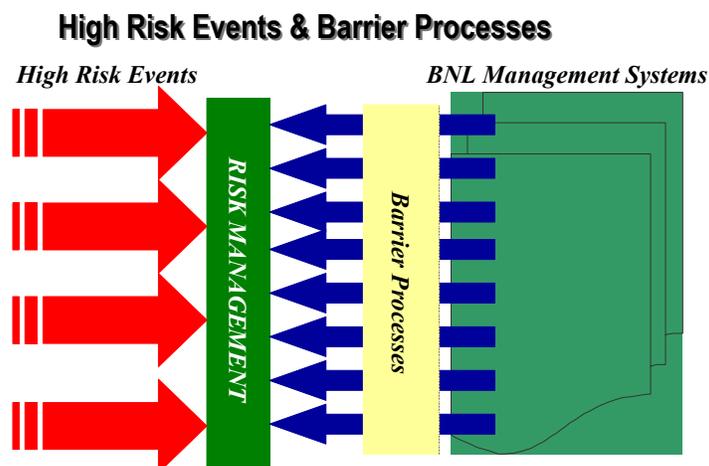


Figure 3-B. BSA Risk Metrics.

#### 3.1.1 Operations Risk Committee - Risk Metrics

High Risk Event Category	Barrier Process Metric	FY06 Status/FY07 Follow-on Actions Required
Worker Safety & Health	TRC, DART	<b>BNL failed to achieve the DOE/SC targets despite a 33% decrease in the DART rate</b>
	Training Accomplishment	Within risk limits
	Tier I Program Effectiveness	<b>Factual data only; need a new metric to assess effectiveness</b>
	Worker Observation Program	<b>Number conducted reported; Need to set targets and report to target in FY07</b>
	Construction Site Safety	Within limits
	Radiological Awareness Reports	<b>At risk limit; need some assessment activity in FY07</b>
	PAAA Performance Monitoring	<b>Too many NTS non-compliances open; need management attention</b>
Environmental Stewardship	SPDES Permit Exceedances	Within limits (5 in FY06)

High Risk Event Category	Barrier Process Metric	FY06 Status/FY07 Follow-on Actions Required
	Air Permit Exceedances	Within limits (1 in FY06)
	Unplanned Environmental Releases	Within limits (20 spills in FY06)
	ISO 14001 Certification	Within limits
<b>Protection of National Security and Government Property</b>	Security Alarm System Performance	Within limits
	Security Forces Response Time	Within limits
	Security Incidents/MC&A Incidents	<b>Unlocked buildings continue to be an issue</b>
	Cyber-security Incidents	<b>Within limits; however Red Team highlighted social engineering weaknesses</b>
<b>Loss Prevention</b>	Fire Alarm System Performance	<b>Significantly above risk limit</b>
	Fire Rescue Response Time	Within limits
<b>Infrastructure Stewardship</b>	Maintenance Investment Index (MII)	Within limits
	Asset Condition Index	Within limits
	Building & Facility Reliability	Within limits
	Electrical System Reliability	Within limits
	Project Management	Within limits

**Table 3-A.**

*Refer to BSA Operations Committee Assurance Letter, D.McConnell to W. Madia and R.McGrath, dated 12-8-06 for details.*

### 3.1.2 Operations Risk Committee – Emerging Risks/Continuing Issues

As of the end of FY06 there were 15 items being monitored by the Committee. The item and required FY07 follow-on actions are indicated in the table below:

Emerging Risk	Status	FY07 Follow-on Activity
Arc Flash	DOE approval of CAP pending	Continue CAP implementation; coordinate DOE approval with BHSO
Cyber Security	Need permanent ATO from DOE	Prepare for ST&E by SAIC; Implement additional protections
EVMS	Work progressing	Establish a project to manage this effort; report progress to DDO monthly
Energy Contract	FY06 rate \$0.065; contract expires June 2008	Pursue independent power options; work with NYPA/LIPA elected officials
Environmental Liabilities	Regulatory risk	Continue to reduce
EM – BSA Contract	DOE denied incremental fee; directed performance	Continue to pursue dialogue with DOE HQ Procurement
Industrial Hygiene	Baseline monitoring in progress	Accelerate monitoring
ISM	Project plan on schedule	Continue strong project mgmt; develop communications plan
Manual Material Handling	Events continuing	Need follow-on assessment activity
Nuclear Safety	Weaknesses identified	CAP needed
Davis Bacon Challenge	Offsite Unions challenging DOE/BNL process	Meet with President Nassau-Suffolk Building Trades Council to develop path forward
G -2 Remediation Plan	PRAP in public comment	Continue to closely manage and coordinate with CEGPA
Security Clearances	Backlog caused by staffing shortfall	Clear up backlog
SPDES Compliance	Nitrogen exceeded permit level	Continue investigation/identify and implement corrective actions
10CFR851	Program under development; Gap analysis in progress	Examine need for additional resources
NYSDEC NOVs	Changes at CSF have eliminated cause	Continue to monitor

**Table 3-B.**

### 3.1.3 Operations Risk Committee – Assurance Letter Key Concerns

Four key areas were identified in the Operations Risk Committee Assurance Letter to the BSA Assurance Council as requiring substantial management effort and BSA Operations Risk Committee monitoring throughout FY07. These areas are:

- Safety Management
- Cyber-Security (Owned by Others, supported by Operations)
- Strategically-aligned Feedback and Improvement (Owned by Others, supported by Operations)
- Nuclear Facility Safety Basis Management, including transition to Decontamination and Decommissioning

#### FY07 Follow-on Activities

The four key areas listed in the BSA Operations Risk Committee Report will require substantial FY07 activity on the part of Operations management to assure they are resolved. Key activities by area of concern are outlined below:

#### Safety Management

Operations will:

Continue implementing the CAD Arc Flash Corrective Action Plan;  
Continue to manage the ISM/Safety Improvement Project;  
Establish a project to define discrete tasks and schedule and continue to manage the Emergency Management Program Upgrades.

#### Cyber-Security (Owned by Deputy Director for Science)

Operations will continue to support this area by:

Continuing to provide support as requested by the Laboratory Director;  
Continue to participate in related committees.

#### Strategically-aligned Feedback and Improvement (Owned by ALD for Policy & Strategic Planning)

Operations will continue to support this area by:

Developing an FY07 Business Plan as a pilot for FY08 plans to be developed by all BNL organizations;  
Assisting Directorates and Divisions/Offices in developing Business Plans that flow down activities and commitments in the FY07 Operations Business Plan;  
Upgrading the Operations Integrated Assessment Process and publishing a Program Description.

#### Nuclear Facility Safety Basis Management, including transition to Decontamination and Decommissioning

Operations will:

Conduct internal and external assessments of BGRR and HFBR authorization basis documentation;  
evaluate and implement recommendations.

## 3.2 Audit & Finance Risk Committee

The Audit & Finance Committee assurance process interfaced with Operations organizations in the areas of Procurement and development of the Earned Value Management System (EVMS). The Deputy Director for Operations was assigned several action items and reported on the progress to the Audit Committee at each of their meetings.

The Audit Committee, in their assurance letter to the BSA Assurance Council, listed 5 areas that had “control failures” in FY06 requiring immediate remediation and/or continued diligence by management and review by the Committee. None of these areas lie within the scope of the Operations organization.

The Committee also identified areas it believes “continue to warrant monitoring”. Listed below are those areas that are the responsibility of the Operations Organization. The FY07 follow-on-activities for each of these areas are outlined/detailed as well:

- Procurement and Property Management (PPM) – including the appropriateness of resources assigned as well as staffing credentials and experience;
- Credit Card program;
- The development of a “certified project management system” for major facility construction projects (EVMS);
- 10CFR 851 (in conjunction with the Operations Risk Committee).

#### FY07 Follow-on Activities

##### Procurement and Property Management

Operations will:

Continue to pursue additional professional staff and to stabilize and develop the credentials of the current professional staff;

Establish and staff an Internship Program within Procurement.

##### Credit Card Program

Operations will:

Continue to exercise strong oversight over the credit card program and bring discrepancies to the attention of line management.

##### Earned Value Management System

Operations will:

Continue to implement the project activities including development of a Project Management MS and Subject Area.

##### 10CFR 851

Operations will:

Develop and submit the Program Description; Conduct the Gap Analysis and identify corrective actions.

## 4.0 Targeted Assessment Activities

During FY 2006, a number of targeted assessments were performed on activities conducted either wholly or in part by the Operations organization. These are listed in Table 4-A below. These assessments were reviewed as received and corrective actions developed and assigned. They were also used to develop the Management System Stewards' assessment report provided quarterly to senior Laboratory management.

Topic	Done by	Report Date	Summary	BNL Manager
Emergency Management Administration and ERO	DOE-BHSO	12/13/06	4 Findings	Searing
Radiological Work Planning Assessment	BNL/RCD	11/6/06	1 Finding/8 Observations	Tarpinian
Classified Document Retention & Destruction	DOE/CH	11/06	1 Finding/60 Documents	McNerney
Management System Self Assessment	BNL/ESH&Q	11/6/06	6 Areas for Improvement	Tarpinian
Emergency Management Assist Visit Report	DOE-HQ	9/1/06	5 General; 9 Specific Recommendations	Searing
Facility Response Plan Review	EPA	9/11/06	No Violations/Deficiencies	Goode
Transportation Safety Assessment	BHSO	9/25/06	4 Findings/9 Observations	Tarpinian
Type B Investigation Board – Arc Flash	DOE/CH	8/06	17 JONs	McNerney
Quality Assurance Program	McCallum & Turner	7/28/06	11 Criteria Generally Met; 4 Criteria Partially Met; NO Generally Not Met	Lebel
BNL Target Processing Lab Observ.	IO	3/21/06	6 Strengths/10 Areas for Improvement	Mausner
Diesel Generator Maintenance	IO	4/28/06	6 Strengths/4 Non-conformances; 8 Areas for Improvement	Murphy
PERT-Personal Property Management	DOE-HQ	5/19/06	7 Weaknesses/12 Strengths; 3 Best Practices	Healey
Welding Programs	QMO/BHSO	10/31/06	Major Non-conformances; 2 Minor Non-Conformances; 3 Opportunities for Improvement	Lambertson
ESH&Q Directorate Integrated Assessment Mgmt Review	ALD, ESH&Q	1/5/06	6 Improvement Objectives	Tarpinian
BNL Procurement Balanced Scorecard Report	Mgr, PPM	12/5/06	81.7 Points (100pt Scale)	Healey
Change-out of Calgon Sr 90 Adsorber Filter	IO	12/20/05	3 Strengths/1 Area for Improvement	Goode
Acquisition Review – Credit Cards	IA	10/3/06	6 Findings	Healey
NFPA 70E Electrical Safety CA Effectiveness	IO	11/9/06	25 Areas for Improvement	Tarpinian RCD
Charge Back System Evaluation	BNL Committee	11/1/06	8 Observations/3 Recommendations	Bebon
Verification of CAs at ATF (NTS CH-BNL-2003-1)	IO	11/17/06	1 Concern	Dawson

Table 4-A. FY06 Operations Targeted Assessment Activity.

There are inconsistencies between the assessments listed in the Operations Targeted Assessment Activities (Table 4-A above) and the tables of Operations Management Assessments in Section 9.2. In part, the inconsistencies are due to the date range used to extract information from ATS for the tables in Section 9.2 versus the timeframe of data in Table 4-A. This disconnect is straightforward and does not affect the value of the data presented.

However, there is one concern. This analysis shows that not all operations-related assessment activity reported in early FY06 or early FY07 has been captured in ATS. For example, the DOE/BHSD Davis-Bacon Review reported on September 25, 2006, was not captured on either of the tables (4-A or Section 9.2). There were a number of assessments (e.g., DOE/BHSD assessments) that were not tracked in Institutional ATS as they should have been.

For FY07, clear direction will be provided to operations managers as to which assessments are to be tracked in Institutional ATS. The ATS should be used to capture all assessment results and operations managers must ensure that all actions are tracked to completion.

## 5.0 Operations Management Forum (OMF)

The Operations Management Forum (OMF) is a group of experienced BNL senior managers and subject matter experts drawn from various Laboratory organizations, including both science and support operations. The Forum's charge is as follows:

"The Operations Management Forum will utilize data, experience, and expertise to inform Laboratory Management of emerging risks, new opportunities, and the ability to maintain operations within established risk limits. It will also suggest improvements and identify good practices and lessons learned for wider application. The Forum is sponsored by the Deputy Director for Operations. The work of the Operations management Forum supports two of the laboratory's Strategic Focus Areas: Achieving Excellence in ESH&Q and Modernizing the Lab's Infrastructure".

The OMF concept was developed during FY06 based on a similar functionality at PNNL and recommendations from an ISM Assessment conducted in the first quarter of FY06. An organizational meeting was held with the proposed membership and a Chair and Vice Chair selected. A Charter was developed and the first functional meeting scheduled for early FY07. The Chair visited PNNL and participated in a meeting of their Operations Forum.

While there was no formal output from the OMF during FY06, informal discussion among the members and various subject matter experts began during the year and helped develop the members' baseline awareness of the key operational issues facing the Laboratory.

## 6.0 Performance Measures

### 6.1 DOE Performance Evaluation Measurement Plan (PEMP) Goals Owned by Others/Supported by Operations

#### 6.1.1 Introduction

The various elements of the Operations organization were tasked to provide significant support to PEMP objectives, measures, and targets owned by other BNL managers (both science and support). Operations' self-assessment of performance against these tasks is summarized below. The objectives, measures, and targets are presented by numerical order in the PEMP. Follow-on activities that should be taken for FY07 are listed where appropriate and will be considered in developing the FY07 Operations Business Plan.

These objectives, measures, and targets were included in the FY06 Goals for each of the direct reports to the Deputy Director for Operations.

#### 6.1.2 Performance Summary

Owner	Project or Initiative	FY06 Performance Assessment	Comments
ALD, F&O	Upgrade B515 Utilities for additional computing capability		Project completed in time to support new hardware
	NLSL II Support		
	CFN Support		
	Provide additional chilled water capacity		Satellite plant completed on time; no chilled water shortage
DDO	Support BSA Assurance process		All reports provided on time
	Diversity Educational Awareness		Training targets met; diversity internship position established in PPM
ALD, ESH&Q	Management System Evaluation		QMO coordinated evaluation for all tasked Lab organizations

Table 6.1-A.

#### 6.1.2 Detailed Discussion

The objectives, measures, and targets are presented by their numerical order in the PEMP. Follow-on activities that should be taken for FY07 are listed where appropriate and will be considered in developing the FY07 Operations Business Plan.

**Objective 1.4 - Provide for Effective Delivery of Science & Technology**

Ensure the timely completion of the upgrades to Building 515 to support the ATLAS Data Challenge in April 2006.

Assessment (Green)

The DDO, ALD, F&O, and Plant Engineering management worked closely with the RHIC/ATLAS staff, the DDS, and the Laboratory Director to ensure that the infrastructure needs were well understood and appropriately scoped and scheduled. Project progress was monitored through the Plant Engineering Monthly Project review process to ensure the deadline was met.

FY07 Follow-on Activities

Additional modifications to the building and utility infrastructure for B515 will be needed in FY07 if the Blue Gene Supercomputer expected from New York State becomes a reality. Additional planning is needed to assure sufficient future capacity for scientific computing growth.

**Objective 2.1 - Provide Effective Facility Designs as Required to Support Laboratory Programs (activities leading up to CD-2) for NSLS II**

Provide subject matter expertise, through matrix or recharge services to support the NSLS II project conceptual design to include conventional construction engineering and architectural design, ESH&Q analysis and process development, as well as procurement planning to include future AE and CM capability.

Assessment (Green)

Several members of Operations senior management worked closely with the NSLS II project director on NSLS II support needs in the areas of construction ES&H and Procurement to ensure the project's quality and timely support. When asked to make top staff available for transfer to the project, the DDO readily agreed and encouraged staff members to join the project. As a result, Marty Fallier (Plant Engineering), Dave Dale (Procurement), and Steve Hoey (Safety & Health Services) were among the senior Operations staff that joined NSLS II in key slots in FY06.

FY07 Follow-on Activities

NSLS II procurement authority and operating procedures must be formalized. Several infrastructure improvement needs are anticipated for FY07.

**Objective 2.2 - Provide for the Effective and Efficient Construction of Facilities and/or Fabrication of Components (execution phase, Post CD-2 – CD-4)**

CFN – Continue to provide engineering, construction management, and ES&H subject matter experts to support the CFN project schedule. Accomplish all purchasing and contracting activity in accordance with the project schedule. Develop a plan for development of nanotechnology-based fabrication capability within the Central Fabrication Services Division.

Assessment (Green)

The first two elements of this goal were met. The Plant Engineering Project Monthly Report process was used to monitor progress at CFN and suggest corrective actions when appropriate. The DDO played a significant role in the follow-up to the CFN DART case by meeting with the contractor's (E.W. Howell) Safety Manager and talking to Howard Rowland, Howell's President. The last element of this goal was deferred due to the CFN Director leaving BNL.

FY07 Follow-on Activities

Nano-fabrication needs should be included in the FY07 Operations Business Plan and be pursued with Dr. Emilio Mendez, the newly appointed CFN Director.

**Objective 2.3 – Provide Efficient and Effective Operations of Facilities**

Complete the development of the Satellite Chilled Water Plant on schedule to assure sufficient chilled water capacity for operating facilities.

Assessment (Green)

The project was completed on time, on budget, and there were no chilled-water-capacity shortfalls during FY06 despite the significant summer heat wave period.

FY07 Follow-on Activities

Planning is needed to determine how to meet the chilled- water needs of NSLS II and also provide for future site growth.

**6.1.3 PEMP- Performance Goal 4 – Provide Sound and Competent Leadership and Stewardship of the Laboratory**

Meeting this performance goal involves actions by the corporate partner organizations and the BSA Board. The Operations organization will provide support in the form of information and data gathering and reporting, and participation in various forums as requested.

Assessment(Green)

All support and information requested by Battelle and Stony Brook this year was provided in an accurate and timely manner. In addition, the DDO participated in all Battelle Lab Operations forums and kept the BSA Operations Committee informed of significant developments in Operations through periodic updates between Committee meetings.

FY07 Follow-on Activities

The Operations Business Plan to be developed for FY07 will be shared with the BSA Operations Committee.

**6.1.4 PEMP - Performance Goal 6 – Deliver Efficient, Effective, and Responsive Business Systems and Resources that Enable the Successful Achievement of Laboratory Missions****Target 6.3.8.2 – Diversity Educational Awareness**

Operations will participate as requested to assure the 25% Lab-wide employee participation goal is met.

Assessment (Green)

Operations organizations met their participation targets. Procurement hired a minority female and developed an internship program that will target minority participation.

FY07 Follow-on Activities

Fill the Procurement internship position.

**Target 6.4.1.1 – Management System Evaluation**

Operations will implement the contract metric 6.4.1.1 as stated.

Assessment (Green)

The Quality Management Office successfully coordinated the MS evaluation process for all Lab organizations (beyond Operations). The Quality Management MS evaluation was positive overall, but highlighted several recommendations.

FY07 Follow-on Activities

The Quality Management CAP must be completed in FY07.

## 6.2 DOE Performance Evaluation Measurement Plan (PEMP) Goals Owned by Operations

### 6.2.1 Rating Summary

These goals are owned by the Operations organization on behalf of the Laboratory. The table below summarizes the ratings assigned as part of the BNL Self Evaluation process and submitted to DOE-BHSD.

Objective #	Description	Self Evaluation Rating
<b>5.0</b>	<b>Sustain excellence and enhance effectiveness of integrated safety, health and environmental protection</b>	<b>B</b>
5.1	Provide a work environment that protects workers and the environment	C
5.2	Provide efficient and effective implementation of integrated safety, health, and environmental management	B+
5.3	Provide efficient and effective waste management, minimization, and pollution prevention	A
<b>6.0</b>	<b>Deliver efficient, effective and responsive business systems and resources that enable the successful achievement of the Laboratory's mission</b>	<b>This measure not owned in total by Operations</b>
6.2	Provide an efficient, effective, and responsive Acquisition and Property Management System	B+
<b>7.0</b>	<b>Sustain excellence in operating, maintaining, and renewing the facility and infrastructure portfolio to meet Laboratory needs</b>	<b>A+</b>
7.1	Manage facilities and infrastructure in an efficient and effective manner that optimizes usage and minimizes life cycle costs	A
7.2	Provide planning for and acquire the facilities and infrastructure required to support future Laboratory programs	A+
<b>8.0</b>	<b>Sustain and enhance the effectiveness of Integrated Safeguards and Security Management (ISSM) and Emergency Management Systems</b>	<b>B</b>
8.1	Provide an efficient and effective Emergency Management System	C+
8.3	Provide an efficient and effective system for the protection of special nuclear materials, classified matter and [? word missing here]	B+
8.4	Provide an efficient and effective system for the protection of classified and sensitive information	A

**Table 6.2-A.**

A detailed discussion of Operations' self assessment at the measure and target level and follow-on FY07 activities can be found in Appendix B to this report. Refer to the BNL FY 2006 Year-end Self Evaluation Report (including the Appendix document to that report) for a detailed discussion of performance at the objective level.

## 6.3 Operations Performance Measures

### 6.3.1 Introduction

The various organizations within Operations routinely utilize performance measurement on a quarterly basis to assess performance. These performance metrics are used to assess the "health" of facilities and processes within the Divisions. The results/status are reported to the cognizant Assistant Laboratory Director periodically, typically either monthly or quarterly. Success factors/ranges are established for each metric. Select key metrics and their status at fiscal year-end are described below in Table 6.3-A.

Directorate	Division	Metric	4 <sup>th</sup> Qtr Results	Remarks
Facilities and Operation	Plant Engineering	CFS Efficiency	Greater than 78%	Upward trend throughout FY06
		Energy Utilization	Annual B&F energy decrease -2.0 to -4.0%	
		Recycling	More than 40.0% of solid waste sent to landfill	Achieved this level all 4 quarters of FY06
		% QA1, QA2 PMs completed per schedule	63%	Highest was Q1at 80%
		Heat Detectors Replaced	Q4: 242 FY06 Total: 1472	Despite reduced funding program goal was met
		Sprinklers Replaced	4 Buildings completed in FY06	
		ORPS Reports	Q4: 2 FY06 Total: 12	
		Training Complete	Employees: 95% Guests: 93%	FY06 Average: 96% FY06 Average: 94%
		Motor Vehicle Accidents	3	FY06 total: 7
		STOP Training Completed	4 staff	FY06 total: 86 staff
		ALARA	0 dose for all of FY06	(Dose > 50% of the Collective dose Equivalent of the ACL and no individual ACL Exceedances of 50%
		PAAA	1 Non conformance with 10 CFR 851)	1 non reportable in Q3
	Staff Services	% Housing Occupied	Apartments: 63% Dormitories: 46%	Reflects continued decrease over the past ten years

Directorate	Division	Metric	4 <sup>th</sup> Qtr Results	Remarks
Environmental, Safety, Health & Quality	Environmental & Waste Management	Waste Shipped	<b>Hazardous</b> 172,289 lbs <b>Industrial</b> 11,205,894 lbs <b>Radioactive</b> 17,476 ft <sup>3</sup> solid; 16,745 gal liquid <b>Mixed</b> 188 ft <sup>3</sup> solid; 43 gal liquid	
		# SPDES Violations	6 excursions	9 in FY05
		# Spills	32 total; 1 significant	38 total; 2 significant in FY05
		Ozone Depleting Substances (ODS)inventory	78,763 lbs	46% reduction since 2003, the baseline year
	Safety & Health Services	Worker's Compensation Cost	2.18% of Gross Annual Payroll	Calendar year 2005; 2006 to be billed in August
		IH Sampling Events	310 for FY06	171 in FY05
	Radiological Control	Radiological Work Permits	189 for FY06	Continues downward trend since closure of HFBR and BGRR
		Radiological Awareness Reports	39 for FY06	
		Radiological Exposure Investigations	53 for FY06	
		Personnel contamination	5 personnel contamination events	Consistent with prior years
		Annual site collective dose	6.094 rem (CY 2006) *	
	Quality Management	Third Party Evaluation	QAP meets QA Order and Rule, well documented	
		Open SBMS ROD Actions in ATS	20 Open Another 8 are overdue	
		Published documents in SBMS	69 documents total 59 were site wide procedures	
		Visits to the SBMS Website	17,967 hits in 4 <sup>th</sup> Qtr	

**Table 6.3-A. Key Directorate/Division-Level Performance Metrics.**

(\* data entered pertains to CY 2006)

## 7.0 Operations FY06 Projects and Initiatives

Beyond the DOE PEMP Goals, the Operations organization is tasked with “internal projects and initiatives” that it needs to accomplish within a given FY. These flow from prior year integrated–assessments results, needs identified by line management, and institutional requirements. These are flowed down into individual goals for Operations senior management and tracked quarterly. Several of the DOE PEMP goals and objectives are effectively “projects and initiatives”, but will not be duplicated here (refer to Appendix B for a detailed assessment).

Owner	Project or Initiative	FY06 Performance Assessment	Comments
<b>Deputy Director for Operations</b>	ISM/Safety Improvement Plan		Project 53% complete at FY end; on schedule
	Performance Based Management		Responsibility transferred out in Jan 06; support role for remainder of FY06
	Institutional Feedback and Improvement Support		Operations Forum established
	SBMS Completion		Institutional goal deferred
	Reactor D&D Work		Work obtained but not under favorable commercial terms
	NE Regional Counterintelligence Office		Office “stood-up”; Positive feedback from HQ on FY06 performance
	SCPA and IBEW Negotiations		Creative work rules negotiated; initial assessment indicates efficiencies
<b>ALD, F&amp;O</b>	Research Support Building (RSB)		Completed on time, on budget with no lost time injuries
	Augment PE Construction Safety Program to support CFN, RSB		Consultant and in-house support provided; only one DART case
	Earned Value Management System (EVMS)		Project transitioned to Manager PE due to loss of PM and Project Controls manager to NSLS II
	Address OSHA Findings		1104 findings abated; 85 remaining
<b>ALD, ESH&amp;Q</b>	Ship legacy nuclear materials		Reduced fissile inventory onsite by about 90%
<b>Manager, Procurement &amp; Property Management</b>	PERT Review		Excellent results; noteworthy practices identified

Table 7-A.

## 8.0 Resources/Business Operations Management Performance

### 8.1 Introduction

The business and human resources functions within the Operations organization are managed by the individual line managers. There are three staff organizations that provide assistance to the line managers in discharging their responsibilities. These organizations are:

- Facilities & Operations (F&O) Business Operations Group
- ESH&Q Business Operations Group
- Environmental Restoration Project (ERP) Business Manager

The ERP Business Manager has primary responsibility for the ERP projects and financial, procurement, and human resources activities are reviewed in the context of project reviews.

The F&O and ESH&Q Business Managers provide performance feedback to the ALDs and the DDO and input on emerging risks and opportunities through a monthly financial review process. A memo and a series of standard charts are used to convey financial status at this meeting. Each Business Operations Manager attends both monthly review sessions, and the CFO and representatives from the Laboratory's Budget Office are invited to attend.

F&O had an extremely successful year in FY06 with net operations for the directorate ending the year \$124,000 under expended, not including \$625K carryover in Safeguards and Security, which is direct funded. All F&O Divisions brought their operations in under budget at year-end. With a total Budget Authority of \$81M, the \$124K represents a remarkable positive financial variance of only 0.15%. In addition, F&O was able to utilize operational savings to purchase \$400K in additional fuel oil for the Laboratory (normally a cost borne by a Laboratory account). Because the Laboratory account had already been spent, this additional purchase was able to take advantage of optimal market pricing. It was also possible to fund \$59K in additional maintenance projects. These savings resulted from cost-conscious line management, less than "normal" snow removal costs, and a decrease in the fringe rate due to savings in medical costs at the Laboratory level.

The ESH&Q directorate also ended FY06 under budget, despite significant incremental expectations from the Laboratory (10CFR851, OHSAS 18001). The total Budget Authority for the ESH&Q Directorate in FY06 was slightly more than \$17.2M, of which \$17.0M was expended. In addition to meeting the added incremental expectations with little or no new funding, the Directorate leveraged the available funding with several other Laboratory entities to recruit 14 summer interns. Two of the summer interns successfully completed the program and were hired as permanent employees, filling positions in the Safety and Health Division as Industrial Hygienists.

The Environmental Services and Waste Management Division benefited from the "frugality" exhibited by the managers of the Directorate. The funds that were available at year-end enabled the Division to ship a significant amount of Radioactive Waste off-site, thus reducing the amount held in our long-term storage facilities. In addition, funds were placed in an escrow account to cover New York State Department of Environmental Conservation (NYDEC) fees, pending the outcome of negotiations between NYDEC and DOE.

## 9.0 Management Systems Assessment

### 9.1 Introduction

This section provides the Management System Steward's summary assessment of his/her management system's performance for FY 2006, based on the full spectrum of inputs received. Each of the 17 Management Systems owned by Operations is included.

### 9.2 Management System Performance Summary

This table shows the quarterly performance ratings for each operations owned management systems for FY06 as reported by the Steward.

Management System	1 <sup>st</sup> Quarter	2 <sup>nd</sup> Quarter	3 <sup>rd</sup> Quarter	4 <sup>th</sup> Quarter
Acquisition Management	Yellow	Yellow	Yellow	Yellow
Property Management	Green	Green	Green	Green
Work Planning & Control	Yellow	Yellow	Yellow	Yellow
Administrative Support	Green	Green	Green	Green
Emergency Preparedness	Yellow	Yellow	Yellow	Yellow
Emergency Response	Green	Green	Green	Yellow
Facility Operations	Green	Green	Green	Green
Real Property Asset Mgmt (RPAM)	Green	Green	Green	Green
Security	Green	Green	Green	Green
Environmental Management	Green	Green	Green	Green
Facility Safety	Yellow	Yellow	Yellow	Red
Hazardous Material Transportation	Green	Green	Green	Green
Integrated Assessment Program	Yellow	Yellow	Green	Green
Quality Management	Yellow	Yellow	Yellow	Yellow
Radiological Control	Yellow	Yellow	Green	Green
Standards-Based Management	Yellow	Yellow	Yellow	Yellow
Worker Safety & Health	Green	Yellow	Yellow	Red

The following tables summarize, for each Operations MS Steward (the DDO, the ALD F&O, and the ALD ESH&Q)

1. (Tables 9.2 A-C) The assessments performed in FY06 that were tracked in the Assessment Tracking System (ATS). The Quality Management Office codes each condition noted in the corrective action plans to a management system. These tables show the number of conditions associated with each MS for each assessment, and the number of actions and conditions closed and open at the end of the fiscal year. The MS quarterly performance ratings (red, yellow, green) for each quarter are shown at the bottom of the table to compare alignment of assessment results against Stewards' ratings.
2. (Tables 9.2 D-F) The ORPS events in FY06 and the management systems that were implicated in the occurrence.

		MS Steward – M. Bebon					Condition and Action Closed As Per Fiscal Year 06				
ATS #	FY 06 Assessments	Acquis. MS	Prop. MS	Work Plan MS	OTHER MS	Total Conditions	Closed Conditions	Open Conditions	Total Actions	Closed Actions	Open Actions
	OPEN CONDITIONS FY 05	1	0	9	24	34					
2872	Review of Self-Assessment Program of F&O				1	1	1	0	5	5	0
2873	Review of Self-Assessment Program of BES					0	0	0	7	7	0
2875	OHSAS 18001 Desk Audit Status of Actions					0	0	0	5	1	4
2932	Construction Safety Program Review - Phase 3					0	0	0	8	8	0
2935	NTS Inadequate Control of Procedures					0	0	0	6	4	2
2980	Work Observation Sr. Mgmt: Change-out of Calgon Strontium-90			2		2	2	0	2	2	0
2987	**BNL Emergency Medical Support Program					0	0	0	2	0	2
3078	**Material Handling Corrective Action Follow-Up	1			2	3	2	1	56	27	29
3112	CAP for BNL Electrical Equipment Acceptance Program				1	1	1	0	10	7	3
3117	Work Obs. Sr Mgmt - Brookhaven Target Processing Lab Ops			1		2	1	1	11	7	4
3138	DOE-BHSO/BSA Collaborative Assessment BNL's Shelter-In-Place				1	1	1	0	7	7	0
3184	Internal ISO14001/18001 EMS/OHSAS Assessment 2006				1	1	1	0	27	15	12
3187	Machine Guarding (BHSO/BSA Collaborative)					0	0	0	1	0	1
3188	Work Observation by Sr Mgmt - Back-Up Diesel Generator			2	1	3	3	0	15	15	0
3226	**Unreviewed Safety Question Program Assessment					0	0	0	6	5	1
3307	**FY06 ISO14001/OHSAS 18001 Surveillance Audit					0	0	0	10	0	10
3362	Evaluation of the QA Program at BNL (FY06 PEMP 6.4)					0	0	0	0	0	0
3372	Work Observation by Senior Management ATF – Shutdown Condit			1		2	0	2	6	0	6
3373	Assessment of BNL's Triennial Transportation Safety Program				1	1	0	1	17	1	16
3442	Assessment of BNL's Offsite response interfaces					0		0	0	0	0
3484	RCD Triennial Assessment TA-06-02					0	0	0	10	0	10
	TOTAL CONDITIONS	2	0	15	0	34	51	39	211	111	100
	CLOSED CONDITIONS PER MANAGEMENT SYSTEM	1	0	11		0	12				
	OPEN CONDITIONS	1	0	4		34	39				
Quarterly Management System Rating	1st	Y	G	Y							
	2nd	Y	G	Y							
	3rd	Y	G	Y							
	4th	Y	G	Y							

Note: Data run from 10/1/05 to 9/30/06  
Note: \* All conditions and Actions are closed as of Sept. 2006

		MS Steward – A. McNerney						Condition and Action Closed As Per Fiscal Year 06					
		Admin Support MS	Emerg. Prepare MS	Emerg. Respon MS	Facil. Ops MS	RPAM MS	Secur. MS	Total Conditions	Closed Conditions	Open Conditions	Total Actions	Closed Actions	Open Actions
ATS #	FY 06 Assessments												
	OPEN CONDITIONS AT THE END OF FY 05	0	8	0	4	1	0	13					
2872	Review of Self-Assessment Program of F&O							0	0	0	5	5	0
2873	Review of Self-Assessment Program of BES							0	0	0	7	7	0
2875	OHSAS 18001 Desk Audit Status of Actions							0	0	0	5	1	4
2932	Construction Safety Program Review - Phase 3							0	0	0	8	8	0
2935	NTS Inadequate Control of Procedures							0	0	0	6	4	2
2980	Work Observation Sr. Mgmt: Change-out of Calgon Strontium-90							0	0	0	2	2	0
2987	**BNL Emergency Medical Support Program		1					1	1	0	2	0	2
3078	**Material Handling Corrective Action Follow-Up					1		1	1	0	56	27	29
3112	CAP for BNL Electrical Equipment Acceptance Program							0	0	0	10	7	3
3117	Work Obs. Sr Mgmt - Brookhaven Target Processing Lab Ops							0	0	0	11	7	4
3138	DOE-BHSO/BSA Collaborative Assessment BNL's Shelter-In-Place			1				1	1	0	7	7	0
3184	Internal ISO14001/18001 EMS/OHSAS Assessment 2006							0	0	0	27	15	12
3187	Machine Guarding (BHSO/BSA Collaborative)							0	0	0	1	0	1
3188	Work Observation by Sr Mgmt - Back-Up Diesel Generator							0	0	0	15	15	0
3226	**Unreviewed Safety Question Program Assessment							0	0	0	6	5	1
3307	**FY06 ISO14001/OHSAS 18001 Surveillance Audit							0	0	0	10	0	10
3362	Evaluation of the QA Program at BNL (FY06 PEMP 6.4)							0	0	0	0	0	0
3372	Work Observation by Senior Management ATF - Shutdown Condit							0	0	0	6	0	6
3373	Assessment of BNL's Triennial Transportation Safety Program							0	0	0	17	1	16
3442	Assessment of BNL's Offsite response							0		0	0	0	0
3484	RCD Triennial Assessment TA-06-02							0	0	0	10	0	10
	TOTAL CONDITIONS	0	9	1	4	2	0	16	3	13	211	111	100
	CLOSED CONDITIONS PER MANAGEMENT SYSTEM	0	7	1	3	1	0	12					
	OPEN CONDITIONS AT THE END OF FY 06	0	2	0	1	1	0	4					
Quarterly Management System Rating	1st	G	Y	G	G	G	G						
	2nd	G	Y	G	G	G	G						
	3rd	G	Y	G	G	G	G						
	4th	G	Y	Y	G	G	G						

Note: Data run from 10/1/05 to 9/30/06  
Note: \* All conditions and Actions are closed as of Sept. 2006

		MS Steward – J. Tarpinian								Condition and Action Closed As Per Fiscal Year 06					
		Envir. MS	Facil. Safety MS	Haz. Mater. MS	Integ. Assess MS	Qual. MS	Rad. Con MS	SBMS	Work. Safety MS	Total Conditions	Closed Conditions	Open Conditions	Total Actions	Closed Actions	Open Actions
ATS #	FY 06 Assessments														
	OPEN CONDITIONS AT THE END OF FY 05	10	1	1	12	9	7	6	24	70					
2872	Review of Self-Assessment Program of F&O					3				3	3	0	5	5	0
2873	Review of Self-Assessment Program of BES				6					6	6	0	7	7	0
2875	OHSAS 18001 Desk Audit Status of Actions				2				3	5	4	1	5	1	4
2932	Construction Safety Program Review - Phase 3								8	8	8	0	8	8	0
2935	NTS Inadequate Control of Procedures					2				2	1	1	6	4	2
2980	Work Observation Sr. Mgmt: Change-out of Calgon Strontium-90									0	2	-2	2	2	0
2987	**BNL Emergency Medical Support Program									0	0	0	2	0	2
3078	**Material Handling Corrective Action Follow-Up					1			7	8	2	6	56	27	29
3112	CAP for BNL Electrical Equipment Acceptance Program					2			1	3	1	2	10	7	3
3117	Work Obs. Sr Mgmt - Brookhaven Target Processing Lab Ops									0	0	0	11	7	4
3138	DOE-BHSO/BSA Collaborative Assessment BNL's Shelter-In-Place									0	0	0	7	7	0
3184	Internal ISO14001/18001 EMS/OHSAS Assessment 2006	12							1	13	8	5	27	15	12
3187	Machine Guarding (BHSO/BSA Collaborative)								1	1	0	1	1	0	1
3188	Work Observation by Sr Mgmt - Back-Up Diesel Generator									0	0	0	15	15	0
3226	**Unreviewed Safety Question Program Assessment		1							1	0	1	6	5	1
3307	**FY06 ISO14001/OHSAS 18001 Surveillance Audit	4								4	0	4	10	0	10
3362	Evaluation of the QA Program at BNL (FY06 PEMP 6.4)									0	0	0	0	0	0
3372	Work Observation by Senior Management ATF - Shutdown Condit		1			1		1		3	0	3	6	0	6
3373	Assessment of BNL's Triennial Transportation Safety Program			4						4	0	4	17	1	16
3442	Assessment of BNL's Offsite response									0		0	0	0	0
3484	RCD Triennial Assessment TA-06-02						4			4	0	4	10	0	10
	TOTAL CONDITIONS	26	3	5	20	18	11	7	45	135	35	100	211	111	100
	CLOSED CONDITIONS PER MANAGEMENT SYSTEM	14	0	1	12	6	3	5	25	66					
	OPEN CONDITIONS AT THE END OF FY 06	12	3	4	8	12	8	2	20	69					
Quarterly Management System Rating	1st	G	Y	G	Y	Y	Y	Y	Y						
	2nd	G	Y	G	Y	Y	Y	Y	Y						
	3rd	G	Y	G	G	Y	G	Y	Y						
	4th	G	R	G	G	Y	G	Y	R						

Occurrence Reporting And Processing System

		MS Steward - M. Bebon				Condition Closed Fiscal Year 06		
		Acquis. MS	Prop. MS	Work Plan MS	OTHER MS	Total Conditions	Closed Conditions	Open Conditions
ATS #	FY 06 Assessments							
2929	Violation of HFBR Safety Evaluation Report	0				0		0
2930	ORPS Energized Wire Discovered During RF Power Amp Repair	0		1		1	1	0
2971	ORPS - Oil Delivery Truck Spill	0				0		0
2981	ORPS - Suspect Counterfeit Bolts in Ratchet Assemblies	0				0		0
3039	ORPS Equipment Drop at Building 901	0		1		1	1	0
3040	ORPS Energized Conductor Discovered in Cut Conduit	0				0	0	0
3059	ORPS Personnel Exposure to Excessive Noise	0				0	0	0
3060	ORPS PISA Declaration on Corrosion of Building 865 Stacks	0				0		0
3064	ORPS Burning Cotton Apron In PPE	0				0		0
3067	ORPS Fall Causes Hip Fracture	0				0	0	0
3095	ORPS Discovery of Contamination in Radioactive Material Area	0				0	0	0
3096	ORPS Personnel Exposure to Excessive Noise in Auto Shop	0				0		0
3105	ORPS Discovery of Radiation Monitor In Interlock-Bypass-Mode	0				0	0	0
3110	ORPS Exposed Electrical Terminals in Legacy Installed Light	0				0	0	0
3161	ORPS 400 Amp Electrical Switch Failure	0				0	0	0
3172	ORPS Laceration of Leg at Construction Site	0				0	0	0
3216	ORPS Vehicle Windshield Damaged During Concrete Removal	0				0		0
3255	ORPS Equipment Falls Off Tailgate of Box Truck	0				0	0	0
3267	ORPS - Chemical Spill in Wet Chemistry Lab	0				0	0	0
3308	ORPS - HFBR Dumpster Alarms BNL Radiation Truck Monitor	0				0	0	0
3329	ORPS - Employee Slips While Descending Ladder	0				0	0	0
3331	ORPS Unexpected Energized Cord Cut	0				0		0
3332	ORPS Painter's spackling knife contacts abandoned wiring	0		1		1	0	1
3347	ORPS - Forklift drops secured aerial lift	0		1		1	0	1
3348	ORPS Report - Unsafe Protection Scheme for Electrical Hazard	0		1		1	0	1
3349	ORPS - Employee Fractures Rib	0				0	0	0
3365	ORPS - HFBR Air Conditioning Water Pump Seal Leak	0				0	0	0
3371	ORPS - Contamination Found Outside the BGRR RCA	0				0	0	0
Not in ATS	Tree Grinding damage Car Window	0		1		1	1	0
	<b>TOTAL CONDITIONS</b>	0	0	6	0	6	3	3
	<b>CLOSED CONDITIONS PER MANAGEMENT SYSTEM</b>	0	0	2	0	2		
	<b>OPEN CONDITIONS AT THE END OF FY 06</b>	0	0	4	0	4		

Occurrence Reporting And Processing System

		MS Steward - A. McNerney						Condition Closed Fiscal Year 06			
		Admin Support MS	Emerg. Prepare MS	Emerg. Respon MS	Facil. Ops MS	RPAM MS	Secur. MS	Total Conditions	Closed Conditions	Open Conditions	Open Actions
ATS #	FY 06 Assessments										
2929	Violation of HFBR Safety Evaluation Report							0	0	0	0
2930	ORPS Energized Wire Discovered During RF Power Amp Repair							0	0	0	0
2971	ORPS - Oil Delivery Truck Spill							0	0	0	4
2981	ORPS - Suspect Counterfeit Bolts in Ratchet Assemblies							0	0	0	0
3039	ORPS Equipment Drop at Building 901							0	0	0	2
3040	ORPS Energized Conductor Discovered in Cut Conduit							0	0	0	0
3059	ORPS Personnel Exposure to Excessive Noise							0	0	0	2
3060	ORPS PISA Declaration on Corrosion of Building 865 Stacks							0	0	0	29
3064	ORPS Burning Cotton Apron In PPE							0	0	0	3
3067	ORPS Fall Causes Hip Fracture							0	0	0	4
3095	ORPS Discovery of Contamination in Radioactive Material Area							0	0	0	0
3096	ORPS Personnel Exposure to Excessive Noise in Auto Shop							0	0	0	12
3105	ORPS Discovery of Radiation Monitor in Interlock-Bypass-Mode							0	0	0	1
3110	ORPS Exposed Electrical Terminals in Legacy Installed Light							0	0	0	0
3161	ORPS 400 Amp Electrical Switch Failure							0	0	0	1
3172	ORPS Laceration of Leg at Construction Site							0	0	0	10
3216	ORPS Vehicle Windshield Damaged During Concrete Removal							0	0	0	0
3255	ORPS Equipment Falls Off Tailgate of Box Truck							0	0	0	6
3267	ORPS - Chemical Spill in Wet Chemistry Lab							0	0	0	16
3308	ORPS - HFBR Dumpster Alarms BNL Radiation Truck Monitor							0	0	0	0
3329	ORPS - Employee Slips While Descending Ladder							0	0	0	10
3331	ORPS Unexpected Energized Cord Cut							0	0	0	0
3332	ORPS Painter's spackling knife contacts abandoned wiring							0	0	0	0
3347	ORPS - Forklift drops secured aerial lift							0	0	0	0
3348	ORPS Report - Unsafe Protection Scheme for Electrical Hazard							0	0	0	0
3349	ORPS - Employee Fractures Rib							0	0	0	0
3365	ORPS - HFBR Air Conditioning Water Pump Seal Leak					1		1	0	1	0
3371	ORPS - Contamination Found Outside the BGRR RCA							0	0	0	0
TOTAL CONDITIONS		0	0	0	0	1	0	1	0	1	
CLOSED CONDITIONS PER MANAGEMENT SYSTEM		0	0		0	0	0	0			
OPEN CONDITIONS AT THE END OF FY 06		0	0	0	0	1	0	1			

Occurrence Reporting And Processing System

		MS Steward - J. Tarpinian									Condition Closed Fiscal Year 06		
		Envir. MS	Facil. Safety MS	Haz. Mater. MS	Integ. Assess MS	Qual. MS	Rad. Con MS	SBMS	Work. Safety MS	Total Conditions	Closed Conditions	Open Conditions	
	FY 06 Assessments												
2929	Violation of HFBR Safety Evaluation Report		1							1	1	0	
2930	ORPS Energized Wire Discovered During RF Power Amp Repair									0	0	0	
2971	ORPS - Oil Delivery Truck Spill	1								1	1	0	
2981	ORPS - Suspect Counterfeit Bolts in Ratchet Assemblies					1				1	1	0	
3039	ORPS Equipment Drop at Building 901									0	0	0	
3040	ORPS Energized Conductor Discovered in Cut Conduit								1	1	0	1	
3059	ORPS Personnel Exposure to Excessive Noise								1	1	0	1	
3060	ORPS PISA Declaration on Corrosion of Building 865 Stacks		1							1	1	0	
3064	ORPS Burning Cotton Apron in PPE								1	1	1	0	
3067	ORPS Fall Causes Hip Fracture								1	1	0	1	
3095	ORPS Discovery of Contamination in Radioactive Material Area						1			1	0	1	
3096	ORPS Personnel Exposure to Excessive Noise in Auto Shop								1	1	1	0	
3105	ORPS Discovery of Radiation Monitor In Interlock-Bypass-Mode						1			1	0	1	
3110	ORPS Exposed Electrical Terminals in Legacy Installed Light								1	1	1	0	
3161	ORPS 400 Amp Electrical Switch Failure								1	1	0	1	
3172	ORPS Laceration of Leg at Construction Site								1	1	1	0	
3216	ORPS Vehicle Windshield Damaged During Concrete Removal								1	1	1	0	
3255	ORPS Equipment Falls Off Tailgate of Box Truck								1	1	0	1	
3267	ORPS - Chemical Spill in Wet Chemistry Lab	1								1	0	1	
3308	ORPS - HFBR Dumpster Alarms BNL Radiation Truck Monitor						1			1	0	1	
3329	ORPS - Employee Slips While Descending Ladder								1	1	0	1	
3331	ORPS Unexpected Energized Cord Cut								1	1	1	0	
3332	ORPS Painter's spackling knife contacts abandoned wiring									0	0	0	
3347	ORPS - Forklift drops secured aerial lift									0	0	0	
3348	ORPS Report - Unsafe Protection Scheme for Electrical Hazard									0	0	0	
3349	ORPS - Employee Fractures Rib								1	1	0	1	
3365	ORPS - HFBR Air Conditioning Water Pump Seal Leak									0	0	0	
3371	ORPS - Contamination Found Outside the BGRR RCA						1			1	0	1	
Not in ATS	NOV from NYSDEC	1								1	1	0	
Not in ATS	Improper Disposal of High PH Solution	1								1	1	0	
	TOTAL CONDITIONS	4	2	0	0	1	4	0	13	24	12	12	
	CLOSED CONDITIONS PER MANAGEMENT SYSTEM		0	0			4	0	6	10			
	OPEN CONDITIONS AT THE END OF FY 06	4	2	0	0	1	0	0	7	14			

The information in Tables 9.2 D-F is detailed below:

#### Work Planning and Control

Six (6) occurrences were identified as primarily attributable to potential weaknesses in the Work Planning and Control Management System. These occurrences were indicative of issues related to hazard identification and control, such as energized and/or exposed electrical wires, load/equipment drops, and spalled projectiles. Causal factors included incomplete identification of hazards prior to beginning work, use of inadequate assumptions during planning, inadequate control of identified hazards, inadequate communication of job steps, inadequate close-out/inspection of work, use of improper equipment, and over reliance on previous experience under different conditions.

#### Real Property Asset Management

One (1) occurrence was identified as primarily attributable to potential weaknesses in the Real Property Asset Management System. This occurrence was indicative of issues related to equipment maintenance. Causal factors included less than adequate preventive and corrective maintenance, less than adequate post-maintenance inspection/testing, and inadequate change control.

#### Worker Safety and Health

There were 13 occurrences identified as primarily attributable to potential weaknesses in the Worker Safety and Health Management System. These occurrences were indicative of issues related to industrial hygiene exposures, slip/trip/fall hazards, electrical hazards, heavy loads, projectiles, and failure to use PPE. Causal factors included changes in work environment not evaluated, failure to identify full scope of exposure hazard, failure to identify special conditions, failure to communicate need for PPE, failure to identify training requirements, inadequate design of equipment, inadequate work space, inadequate change control, inadequate inspection of equipment/environment, failure to maintain equipment, improper use of equipment, and lack of control of job set up.

#### Radiological Control

Four (4) occurrences were identified as primarily attributable to potential weaknesses in the Radiological Control Management System. These occurrences were indicative of issues related to the potential for spread of radioactive contamination, radiation monitoring, and radioactive waste handling. Causal factors included over-reliance on previous experience, use of inadequate assumptions, failure to notify appropriate personnel of status changes, failure to update procedures, failure to follow established processes, and corrective action not timely.

#### Environmental Management

Four (4) occurrences were identified as primarily attributable to potential weaknesses in the Environmental Management System. These occurrences were indicative of issues related to transportation of fuel oil, transport of chemicals, disposal of chemicals, and control of air emissions. Causal factors included inadequate location of storage space, selection of improper disposal method, and inadequate repair of delivery system.

#### Facility Safety

Two (2) occurrences were identified as primarily attributable to potential weaknesses in the Facility Safety Management System. These occurrences were indicative of issues related to compliance with a Safety Evaluation Report and adequacy of safety analyses. Causal factors included inadequate verbal and written communications, inadequate definition of performance standards, training requirements not identified, and less than adequate design of exhaust stacks.

#### Quality Management

One (1) occurrence was identified as primarily attributable to potential weaknesses in the Quality Management System. This occurrence involved the discovery of a suspect/counterfeit bolt in a ratchet strap assembly. A review of purchase orders revealed no other such assemblies. No systemic deficiencies were identified.

## 9.3 Management System Steward Assessments

### 9.3.1 Acquisition Management

#### Performance (Key Functions)

##### Strengths

A DOE/Contractor PERT Review was conducted in May 2006. The PERT Review results indicated no weaknesses, one strength, and one best practice, in addition to the eight "acceptable" findings. Among the team's positive comments were:

- There was significant progress since the 2005 Readiness Review;
- The reputation and respect of the procurement organization within the Lab has improved;
- Revamped management team exhibits strong leadership and management skills;
- Strong teamwork and project support;
- Effective communications within levels of the organization
- Effective project planning and procurement forecasting
- Effective automated procurement checklist and standardized file tabbing;
- Effective use of safety incentive in construction for CFN building
- Good support of and participation by the BNL PPM Manager in both the PERT and the Integrated Contractor Purchasing Teams (ICPT)
- Effective Subcontractor Evaluation System, Report Card, and Non-conformance System (Best Practice)

The PERT Team noted that several ongoing initiatives, if completed, would have resulted in even higher ratings

In addition, Procurement successfully managed several large dollar procurements associated with the Center for Functional Nanoscience, the Research Support Building, and the NSLS II. The Procurement Operations Manager was transitioned to the NSLS II staff to provide direct procurement support to this project. Procurement staff was a key contributor to the Work Planning and Control Team that developed a new process to flow-down ISM requirements to small contractors and vendors.

An internship position was developed to provide a growth opportunity for a Lab employee to enter the procurement field. The internship was closely coordinated with the Diversity Office. PPM worked with DOE to develop a framework for BSA to use DOE/EM's IDIQ contracts for the BGRR work, but DOE was unable to effect contract modifications in time for the start of the BGRR work.

##### Areas for Improvement

The PERT team echoed the concern of the 2005 Readiness Review regarding staffing. PPM's "cost per dollar" is significantly lower than DOE's target range. Without a significant innovation to allow for the reduced staff, the conclusion was that the present staff is lean and will be hard-pressed to continue to meet current and forecasted tasks (specifically, support of NSLS II). The Division was unable to fill all key vacant positions in FY06 despite significant effort.

#### Documentation

##### Strengths

Flow-down of ISM to small contractors and vendors was captured in SBMS. Chapters of the Procurement Operations Manual were approved by DOE and published.

##### Areas for Improvement

None at this time.

### 9.3.2 Property Management

#### Performance (Key Functions)

##### Strengths

A PERT Review of the Property Management System was conducted in May 2006. The results were positive, with the team concluding that: "...BNL has an approved and effective property management system...BNL has adequate personnel assigned to manage government property, trained personnel, and has implemented automated and manual systems to greatly enhance property control throughout the life cycle".

The team noted a best practice in providing foreign travelers the availability of "clean" computers. The team also considered the Sensitive Receipt Acknowledgement Form (SIRA) process to be a best practice. Property Management has partnered with Security to jointly monitor and record all losses and has prompted Security to develop a process to immediately notify Counterintelligence and Cybersecurity whenever a computer is reported lost or stolen. This process enhances cybersecurity by facilitating an assessment of what files were on that computer and may have been compromised. The Property Manager sent letters to Department Chairs and Division Heads that had reported lost or stolen property stressing the need for stronger stewardship of sensitive items.

##### Areas for Improvement

Despite excellent systems and processes, sensitive items continue to be lost/stolen at the Laboratory. In FY06 property valued at \$21,431 was lost or stolen, including three computers, two digital cameras, a PDA, and other sensitive items. Physical security of buildings after hours remains an issue as reported in the Safeguards and Security Management System assessment.

#### Documentation

##### Strengths

Documentation is available on SBMS and updated as required.

##### Areas for Improvement

None at this time.

### 9.3.3 Work Planning & Control

#### Performance (Key Functions)

##### Strengths

The work permit process is relatively mature and being used appropriately for complex work planning. The work permit form itself continues to evolve to incorporate additional risk elements. Assessment input suggests that the pre-job briefing process is being widely used and that pre-job briefs are generally, but not always, effective. The percentage of work performed under "skill of the worker" remains high, estimated at over 80% Lab wide. The Steward initiated an effort in FY06 to replace the term "skill of the worker" with "worker planned work" to counter the widespread interpretation of skill of the worker as implying that no work planning is required. This is to advance the concept that "all work is planned". The POC has expanded this construct to define three levels of application of work planning: Worker Planned, Pre-planned, and Work Permit. Significant progress was made by a team of work control managers and the POC to redefine the process of ISM flow-down and implement it within the MS as well as in supporting procurement processes. This process was ready for implementation at the end of FY06. The completion of OHSAS registration for the Phase III organizations resulted in many additional Job Risk Analyses (JRAs) being completed, enhancing the Hazard Identification and Mitigation steps for recurring tasks that are typically "worker planned". The responsibilities of the POC have been integrated into the OHSAS process. He has also continually improved the quality of WCM meetings and is holding more frequent meetings to ensure adequate communication (sharing and learning) between WCMs across the site. The new Worker Observation program (STOP in F&O) has a positive impact on work planning efforts.

#### Areas for Improvement

The CAD Arc Flash incident highlighted a weakness in the pre-job briefing process for troubleshooting activities. Similar issues with pre-job briefings were identified in the electrical safety effectiveness review. Worker feedback and the efficiency of distributing lessons-learned across the site based on worker feedback are both still sub-optimal processes. Significant worker feedback is reported but it is verbal only and not shared lab-wide. Development of training requirements for Work Control Managers and Coordinators was slower than anticipated. Communication between service providers (Facilities & Operations divisions) and customers (Work Control Managers – WCM) is reported to be problematic. The current practice of customers writing the Work Permit may violate “line responsibility for safety” and needs further investigation. WCMs have indicated that they are overloaded; at the same time there is a need for more work control management expertise in the field. A more effective integration of Facility Risk Assessments and Job Task Assessments into work planning and control processes is needed. Expectations for worker planned work need to be defined.

#### **Documentation**

##### Strengths

The subject area was revised to incorporate the new process to flow-down ISM to vendors and small contractors.

#### Areas for Improvement

Several MS were identified as having overlapping/inconsistent hazard identification/mitigation processes. An assessment tool for the MS and a process to capture and identify trends in the use and effectiveness of work planning and control processes should be developed. There were several incidents this year that highlighted a deficiency in the accuracy/currency of local operating procedures.

### **9.3.4 Administrative Support**

#### **Performance (Key Functions)**

##### Strengths

Administrative Support is a mature Management System that guides the delivery of services to support BNL’s scientific mission. These services are available to employees, guests, facility users, and visiting researchers. They include housing, food, transportation, automotive fleet operations, conference services, and mail services. Annual self assessments continue to indicate a well functioning management system, with only minor improvements needed. A new Food Service contractor was hired this FY and is meeting our expectations.

#### Areas for Improvement

A Personal Identity Information (PII) issue related to credit card information was discovered in the housing-reservation request form and immediately corrected. No actual customer problems related to the PII issue have been reported to date.

The lack of availability of Compressed Natural Gas vehicles will affect the Laboratory's energy goals in the future. This is the second year in a row that auto manufacturers are not producing these vehicles.

#### **Documentation**

##### Strengths

This management system is well documented.

#### Areas for Improvement

Some legacy documentation needs to be replaced or eliminated, such as, for example, SPI 4-03, Aircraft - Chartered, Leased, or Government Owned. The Staff Services website will be updated to conform to the Laboratory standard.

### 9.3.5 Emergency Preparedness

#### Performance (Key Functions)

##### Strengths

Emergency Preparedness processes continue to improve under focused leadership. A new Emergency Operations Center (EOC) became operational and was used to manage the Annual Site Emergency Exercise that was held as part of the Hazardous Materials Transportation Assessment. The exercise scenario was based on upcoming activities at the BGRR.

The Emergency Management Program Office and DOE Assessment Office reviewed the Hazards Assessments and Hazards Surveys BNL developed to meet the requirements of the revised Emergency Management order. Their recommendations were used improve both tasks. Crisis Manager training was updated and nine managers were trained.

##### Areas for Improvement

An operating budget that fully supports emergency Management Program needs to be established. The Emergency Plan needs to be updated. Command and control of Incidents needs to be improved through training and drills. The project plan to support budget request and facilitate program management needs to be completed.

#### Documentation

##### Strengths

The Emergency Preparedness subject area is well established and documents Emergency Pre-plan response cards, Local Emergency Plans, Hazard Placards, and conducting drills.

##### Areas for Improvement

Local emergency plans and contact documentation needs to be reviewed for currency and revised as needed.

### 9.3.6 Emergency Response

#### Performance (Key Functions)

##### Strengths

Emergency Response continues to be well managed and executed. Response time is excellent. BNL's Fire Department continues to provide assistance to neighboring fire departments and in turn, when required, their Advanced Life Support teams join BNL ambulance crews on "hospital runs". This relationship provides excellent patient care.

Four probationary firefighters have been hired. When they are fully trained (1<sup>st</sup> quarter FY07), Fire/Rescue will be fully staffed.

Major improvement in the performance of the Site Fire Alarm System was made possible with the addition of new hardware.

Sixty assessments/reviews of NFPA Fire Codes related to Fire Department Operations under the Occupational Safety & Health Rule (10 CFR 851) were conducted and gaps identified. Fire Hazard Analysis reports were conducted using an outside contractor. The funding for the analysis of three out of fifty-six buildings was allocated and the analyses have been completed.

New Self-Contained Breathing Air Units, meeting the new hazardous material standards, have been placed into service. In addition, a Hazardous Materials detection unit has been purchased.

Emergency Services participated in the annual BNL site-wide Emergency Management drill testing skills involving a transportation accident and radiological material spill.

#### Areas for Improvement

The recent issuance of 10 CFR 851 has changed National Fire Protection Association (NFPA) standards from "contract" issues to federal law with PAAA type enforcement. This will affect the standards used to evaluate the adequacy for emergency response, specifically fire departments and hazardous materials and emergency medical teams. These new requirements may necessitate an increase in staffing levels and equipment funding.

The Fire Rescue Group provides Basic Life (BLS) Support for emergency medical services. However DOE Orders require that BNL provide life support equal to the local community standard. A survey of local departments indicates that the higher level Advanced Life Support (ALS) service is the norm. Emergency Services is in the process of evaluating the implementation of this capability.

The site fire alarm system will need a major upgrade to avoid obsolescence.

#### **Documentation**

##### Strengths

The Emergency Response Management System is well documented and does not own any subsidiary documents. While not part of this management system, Emergency Services authored the new Fire Safety subject area.

##### Areas for Improvement

Changes resulting from the 10 CFR 851 gap analysis may result in modifications to this Management System.

### **9.3.7 Facility Operations**

#### **Performance (Key Functions)**

##### Strengths

BNL's compliance with DOE Order 5480.19 Chg 2, Conduct of Operations Requirements for DOE Facilities, was strengthened this year by recasting the Conduct of Operations program into a workable format against which facilities can document their compliance with the Order. The format takes advantage of existing BNL programs documented in SBMS. Those facilities previously determined to be governed by the Order are required to submit their conformance matrix for approval. All line organizations are required to review the threshold questions provided in the subject area to determine applicability of the Order to their facilities, and if needed develop a Conduct of Operations Conformance matrix for approval from the Laboratory Conduct of Operations Subject Matter Expert.

The Building Manager program is mature and continues to grow in effectiveness. Monthly meetings have provided a communication forum for Lab-wide activities, such as security, work planning, and radio frequency (spectrum) management.

##### Areas for Improvement

Perform an assessment of Conduct of Operations to evaluate the implementation of the Conduct of Operations process and its compliance to the Order.

#### **Documentation**

##### Strengths

A new subject area and program description were released early in FY06 to strengthen BNL's compliance with DOE Order 5480.19 Chg 2, Conduct of Operations Requirements for DOE Facilities. The new subject area replaces several sections of the Operations and Maintenance Manual.

Work started this year on a new subject area (Nuclear Non-Proliferation Treaty Additional Protocol Declarations), which will provide procedures and guidance to ensure compliance with the Nuclear Non-Proliferation Treaty and its Additional Protocol as outlined in DOE Order 142.2. This subject area is scheduled to be completed and published in the first quarter of FY07.

The Spectrum Management subject area was prepared to describe procedures for certifying, developing or procuring, and operating Radio Frequency (RF) communication devices (spectrum devices) to ensure that they are in accordance with federal regulations. This new subject area is scheduled to be completed and published in the first quarter of FY07.

Eighty-eight Facility Use Agreements (FUA) were revised during FY06. This number is significantly higher than in previous years due to the FUA assessment performed earlier this year as well as the increased importance of FUAs to the Integrated Safety Management.

#### Areas for Improvement

Complete and publish the Nuclear Non-Proliferation Treaty Additional Protocol Declarations and Spectrum Management subject areas.

Continue the effort to update FUAs.

### **9.3.8 Real Property Asset Management**

#### **Performance (Key Functions)**

##### Strengths

The RPAM system is relatively mature. Metrics for project management (e.g., funding and schedule) met DOE requirements. Especially noteworthy was the construction of the Research Support Building (RSB), which remains on schedule and within budget; completion is scheduled for the first quarter of FY 07.

A gap analysis for Earned Value Management System (EVMS) indicated that BNL has a good overall proficiency in project management and requires minimal modification and training to achieve readiness for EVMS certification. A draft system description for EVMS was completed and the review process started. EVMS certification for the Laboratory is scheduled for the later part of FY 07.

The Ten Year Site Plan (TYSP) was submitted on-time.

There were no unplanned electrical outages for the entire fiscal year. Efforts continue to develop long term electrical power options. Efforts included evaluation of a power contract with operators of a new generation plant to be constructed close to BNL and third party financed construction and operation of a cogeneration facility at BNL.

The Maintenance Investment Index achieved 110% of its targeted goal.

Laboratory management continued to reach out to public officials at local, Albany, and Federal levels to bring attention to the Lab's long-term power needs.

#### Areas for Improvement

Assessments conducted during the year identified opportunities for improvement in the engineering design function, specifically clearer connections to security and ALARA programs as well as additional guidance for identifying design review requirements for electrical substations. As part of the Arc Flash Corrective Action Plan, a maturity evaluation of the engineering design function will be conducted in FY 07.

#### **Documentation**

##### Strengths

RPAM has several well documented processes, including the Davis-Bacon Act, Engineering Design, Maintenance Management, Project Management, and Space Management subject areas.

#### Areas for Improvement

The EVMS program description needs to be completed and published on SBMS. Achieve EVMS certification. Make a determination as to whether a new Management System should be developed for Project Management and EVMS.

### 9.3.9 Security

#### Performance (Key Functions)

##### Strengths

The Security Management System is mature, although it is under continuous change due to new DOE Directives. Seven corrective actions stemming from the implementation of the DOE Directives were completed in FY06. Three other DOE Directives were reviewed resulting in new actions required for implementation of the Directive.

An ISSM survey was conducted. 17 BNL Departments and Divisions were visited and 10% of each organization's personnel was interviewed. The information gathered from this survey was used to develop and implement the ISSM communication plan. A Communications Security (COMSEC) review was conducted by DOE with no concerns noted.

The Radiological Control Division has met their goal to publish 25% of the required stand-alone Material Control & Accountability procedures. Senior Management conducted field inspections of several Material Balance Areas. The Memorandum of Understanding between the Safeguards & Security Division (SSD) and the Isotope & Special Material Group of the Radiological Controls Division has been updated and approved.

In FY06, the Safeguards & Security Division eliminated the backlog of clearance re-investigations and completed training on the clearance and Person Identity Verification (PIV) process.

BNL continues to conduct security surveys at its facilities and implement recommended security-system upgrades in order to protect sensitive information and nuclear-and-radiological materials, as well as chemical-and-biological agents. These surveys identify risk and outline appropriate cost-effective countermeasures. Safeguards & Security Division is maintaining a close liaison with local and federal law enforcement agencies to develop risk and threats information.

Employee re-badging is 83% complete. This effort is on track to be completed by the end of the calendar year. The license-plate reader system has been installed and is functional. BNL was recognized favorably by DOE for providing security during the site visit of a high level dignitary.

##### Areas for Improvement

Concerns regarding the safeguarding and protection of laboratory computer systems were identified and are being addressed. An assessment of the Property Protection Areas (PPA) was completed; there was one finding on communication of program requirements to PPA owners and it is being addressed.

Procedures for identifying, reporting, and conducting inquiries into incidents of security concern will continue to be developed to ensure full compliance with DOE M 470.4-1. Processes that review data for sensitivity prior to posting on the web will be reviewed and improved as necessary in order to prevent inadvertent compromise of sensitive information.

#### Documentation

##### Strengths

The SPI 5-14, Counterintelligence Program was reviewed and updated in November. The Operations Security subject area will be issued early in FY07. A working group has been established to develop a Material Control and Accountability subject area.

##### Areas for Improvement

The requirements of the Integrated Safety & Security Management will be codified via SBMS subject areas. Work on the MC&A subject area will be completed in FY 07.

### 9.3.10 Environmental Management

#### Performance (Key Functions)

##### Strengths

The Environmental Management System was rated 'green' throughout FY06. The ISO 140001 system provides a stable platform for the management system, which is well established and maintained. Self-assessment activities and regulatory compliance inspections both indicate the management system is performing well. The focus on continual improvement is evident, and significant improvements were achieved in clean-air-act compliance and spill prevention. Participation in environmental leadership programs, such as the USEPA Performance Track and National Partnership for Environmental Priorities, continues to bear positive results in terms of risk reduction and relationship management. Using the annual objective and target setting process of ISO 14001, aligned with risk reduction goals, BNL was able to reduce PCB inventories by 90%, reduce spills by over 50%, and reduce the mercury inventory by over 30%. Additional progress was made reducing the risk of legacy environmental issues, including focused waste management campaigns to reduce the inventory of un-needed nuclear materials and clean up of lead contaminated soils. All environmental permits were maintained and the RCRA Part B permit was re-issued for an additional ten years. All regulatory reports (over 60) were submitted ahead of schedule. The Environmental Assessment (EA) for the NSLS-II was completed ahead of schedule and secured a Finding of No Significant Impact (FONSI) for the project.

##### Areas for Improvement

The RCRA compliance program, particularly at the point of generation (satellite accumulation areas) continues to be a regulatory risk. Annual inspections by the NYSDEC have found violations in these areas repetitively, and BNL has been issued NOV's for these violations following each inspection for the past four years. Corrective actions taken to date have improved compliance slightly. However, the nature of the problem requires additional technical support in the form of a Waste Management Representative. Management has agreed with this approach, although budgetary limitations have prevented implementation to this date. Other areas requiring attention are nuclear safety compliance and pollution prevention. Improvements for the nuclear safety program have been incorporated into the ISM Improvement project and are underway at both the Waste Management Facility (a category 3 non-reactor nuclear facility), and at other areas of the Lab that store sources or nuclear materials at quantities above the category 3 threshold. This area requires continued focus in FY07. The pollution prevention program, the key to continual improvement in environmental performance, is at risk due to budgetary concerns, and is currently unfunded in FY07.

#### Documentation

##### Strengths

The management system description, all program descriptions, and all subject areas supporting the Environmental Management System are up to date.

##### Areas for Improvement

The ROD verification process is underway and nearly complete. A weakness (potentially site-wide) has been identified with RODs that are "parsed" to other management systems.

Another area for improvement identified by internal and external assessments is document control in general. Assessments have found uncontrolled documents (postings are a particular problem), and out of date documents. A causal analysis team has been formed and this issue will be further evaluated in FY07.

### 9.3.11 Facility Safety

#### Performance (Key Functions)

##### Strengths

This management system and its implementing processes are mature, the technical support committees are functioning, and all appointed positions are filled. The readiness confirmation processes that include the beneficial occupancy review evaluation (BORE), operational readiness review (ORR), Operational Readiness Evaluation (ORE), Exit Readiness Evaluation (ERE), as well as Accelerator Readiness Review (ARR) are functioning well and add value to the facility owner.

##### Weaknesses

Gap analyses were performed between BNL program elements that pertain to facility safety and the requirements of 10 CFR 851. The gap analysis for 10CFR851 revealed that:

- Resource availability is more limited than anticipated due to competing priorities;
- The magnitude of the compliance gaps identified in the Gap Analysis is larger than expected;
- Corrective action plans need to be developed, approved, and resource loaded before the plan is finalized, and
- 53 of the 56 Fire Hazard Analyses required for 10 CFR 851 compliance need to be completed.

Several of the Laboratory's Authorization Basis Documents (ABDs) were outdated and in need of revision. A causal analysis and Extent of Condition (EOC) review for ABDs and nuclear safety management at the Laboratory is in process and will be completed during the first two quarters of 2007.

#### Documentation

##### Strengths

The gap analysis against 10 CFR 851 was completed and the Facility Risk Analyses associated with the OHSAS Phase II and III were completed prior to the internal and external assessments.

Major revisions were made to one (1) Program Description and two (2) SBMS Subject Areas: Facility Authorization Basis Program Description, Facility Hazard Categorization subject area, and the Accelerator Safety subject area.

##### Areas for Improvement

During the year, not all ESH Standards related to this Management System were converted to Subject Areas and major milestones had been missed. Work on this conversion will continue in 2007.

The subject areas that implement the functional areas in the Rule are well defined. However, programmatic gaps were identified in fire protection. These will be major focus areas for FY2007.

27 of 31 contractual requirements need Records of Decision (ROD) to be created, verified, or finalized in 2007.

### 9.3.12 Hazardous Material Transportation

#### Performance (Key Functions)

##### Strengths

The Management System Maturity Evaluation conducted late in FY2005 indicated that this Management system had reached a high level of maturity and was operating efficiently. Results from internal and external assessments conducted in FY 2006 supported that conclusion.

In FY 2006, DOE performed the Triennial Transportation Assessment of BNL in accordance with the Transportation Safety and Operations Compliance Assurance Process (TCAP). The scope of the on-site assessment encompassed the nine TCAP performance objectives: General Management of Transportation and Packaging Programs, Hazardous and Radioactive Materials Packaging, Hazardous and Radioactive Materials Shipper, Transportation Management Operations, Contractor Motor Carrier

Operations, On-site Contractor Railroad Operations, Transportation Emergency Response, Hazardous Materials (HAZMAT) Employee Training, and Contractor Transportation Security Plans. Overall, the TCAP team found BSA personnel to be both knowledgeable and competent. All performance objectives were met.

The Waste Management Program achieved certification for shipment of BNL radioactive waste to the Nevada Test Site (NTS). This success opens new, comprehensive, and cost effective radioactive waste disposal options for BNL.

#### Areas for Improvement

The TCAP assessment identified four significant Findings in the performance objectives of General Management of Transportation and Packaging Programs, Hazardous and Radioactive Materials Packaging, Transportation Emergency Response, and HAZMAT Employee Training. In addition, nine Observations were noted. Although the Laboratory met all the performance objectives of this review, no Noteworthy or Best-in-Class items were identified.

#### **Documentation**

##### Strengths

Program documentation was streamlined by combining four subject areas into two for greater efficiency and ease of access to relevant information for the user. This integration was completed and is posted on the SBMS web site.

##### Areas for Improvement

29 out of 34 RODs for this Management System must be verified, 2 need to be completed or finalized, and one has to be created.

### **9.3.13 Integrated Assessment Program**

#### **Performance (Key Functions)**

##### Strengths

The ongoing efforts implementing quarterly performance reporting and performance review by senior management greatly improved the evaluation of results, a key attribute of BNL's Integrated Assessment Program. Reviews of organizational self-assessment programs by Internal Audit and Oversight (IA&O) evidenced effective implementation of IAP requirements in the organizations reviewed. A Third Party Review Team rated the Management System's Independent Oversight (IO) function as excellent and provided favorable comments about the Lab's PAAA Program. Line organizations acknowledged that the timely communication of a list of scheduled Lab-wide assessments and required line organization self-assessments helped to complete these assessments successfully.

##### Areas for Improvement

The ISM review identified weaknesses in the institutional-level feedback and improvement process. Specifically, the review identified a significant disconnect between organizational self-assessment programs and the BNL institutional level. The requirements for self-assessments and external assessments needed to be better integrated to across line organizations and the institution to avoid duplication of assessment efforts and the assessment schedule delivered to line management in a timely fashion. Causal analyses and corrective actions were developed to address the identified weaknesses. These corrective actions were incorporated into the ISM/Safety Improvement Plan in FY06.

The Third Party Team reviewing the IO function made recommendations for further improvement including better strategic direction for the IO function and senior management attention to distribution of IO reports. Senior BNL management is analyzing these issues and formulating a response.

BHSO commented that BNL's "self-assessment process is not sufficiently rigorous, robust, and credible", and pointed out the differences between the BNL and DOE FY2004 Year-End Evaluations as examples.

Improvements to the IAP MS Description have addressed this concern. Updates to the Integrated Assessment subject area will further document and improve the Lab-wide self-assessment process.

#### **Documentation**

##### Strengths

The IAP Management System Description was reviewed, updated, and revised to incorporate the Contractor Assurance process, the Annual Lab Plan, as well as quarterly performance reviews, and to clarify managers' responsibilities for IAP.

##### Areas for Improvement

The Integrated Assessment Subject Area needs to be updated in FY07 to establish appropriate linkage with the Contractor Assurance process, the Annual Lab Plan and quarterly performance reviews.

### **9.3.14 Quality Management**

#### **Performance (Key Functions)**

##### Strengths

Recent assessments indicated the need to improve BNL's Corrective Action Management process. As a result, the Event/Issues Management Process was revised and a new subject area has been posted on SBMS. Training in fact finding and causal analysis techniques to assure full implementation will be complete by the end of January 2007.

The Internal Controlled Documents subject area was revised in view of the new requirement for reviewing internal controlled documents by the Departments/Divisions. Compliance by laboratory organizations with the new requirements will be assessed in FY2007.

The Quality Assurance Program, the Integrated Assessment Program and Event/Issues Management subject area were revised to incorporate the requirements of DOE Order 226.1. Strengthening the implementation of these documents will continue throughout FY2007.

##### Areas for Improvement

As a result of a third party review of the Quality Assurance Program against the DOE Draft-CRADs (Criteria Review Approach Documents), a need to perform an extent of condition review of the Calibration program is needed. The process for assuring that Quality Representatives are qualified and offered appropriate training will also need further evaluation. These reviews will be completed in FY07.

#### **Documentation**

##### Strengths

All Lab wide procedures are up to date. Requirements verification is complete for the QMS.

##### Areas for Improvement

None at this time.

### **9.3.15 Radiological Control**

#### **Performance (Key Functions)**

##### Strengths

The DOELAP conducted its biennial on-site assessment of BNL's Internal Dosimetry Program during the second quarter of FY06 and re-accredited the program. The assessment identified no deficiencies and four (4) concerns. The RCD prepared and approved a corrective-action response and completed the actions during the year.

RCD invited the Radiological Control Manager from Jefferson Lab to assess BNL's Contamination Control, Airborne Radioactivity and Area Radiation Monitoring Programs. The assessment identified that the programs are mature and functioning very well.

#### Areas for Improvement

During the first two quarters of FY06, the management system steward's evaluation of the Radiological Controls Management System was yellow. This rating was primarily due to a growing backlog of compliance related work in the Instrumentation and Calibration Group and a personnel shortage. The growing backlog represented a potential PAAA vulnerability and a full time dedicated Quality Assurance Engineer was hired in the third quarter.

The DOE assessed the Nuclear Material Control & Accountability Program. One finding was written against the failure to conduct the required inventories of Material Balance Areas in CY2005. RCD is taking action to expand the number of qualified personnel that can conduct the required inventories and improve management oversight by tracking required inventories through the Family Assessment Tracking System (FATS).

Personnel Monitoring (PM) still exhibits an "expert-based" system rather than a "process-based" system. RCD is improving the PM training program to address this concern.

#### **Documentation**

##### Strengths

Management system performance expectations are well documented in site-wide and divisional radiological procedures. RCD commenced a chapter-by-chapter review and update of the BNL Radiological Control Manual (program description), which continues into FY07. The updates and changes are being reviewed by the BNL Radiation Protection Committee.

##### Areas for Improvement

The management system does not contain sufficient policy and implementation direction on the use of containments and gloveboxes for contamination control purposes. The Radiation Generating Device and ALARA Optimization procedures also require simplification.

### **9.3.16 Standards-Based Management**

#### **Performance (Key Functions)**

##### Strengths

The SBMS Completion Project, which was re-established via the ISM plan (WBS 3.2.2), made decent progress in FY06 in order to ensure that all documents in SBMS are current. Meetings were conducted with MS Stewards and POC's to emphasize the importance of this task to the Lab and ask their cooperation to meet committed milestones for documentation submittals, which is instrumental to the timely completion of this task. The completion of this corrective action is imperative to the Lab's continuing commitment to have the most up-to-date policies and procedures in place.

Requirements Management: Phase 1, Verification, is in process. Presentations and demonstrations were conducted for MS Stewards, Points of Contact (POC), and Subject Matter Experts (SME). A set of metrics was established and presented and will be distributed periodically to report on verification progress. Phase 2, Electronic ROD tools, was tested, and user feedback was received. Recommended changes were incorporated into the design of the tools. Plans are to launch this new electronic process early in FY07, pending any cyber security issues.

##### Areas for Improvement

Due to multiple priorities at the institutional level (OHSAS, ISM, SBMS), resource issues, primarily staffing, impacted milestone commitments and slowed the progress of both the SBMS Completion Project and the Requirements Management initiatives. The QMO will adjust staff assignments where possible to provide assistance to other organizations.

#### **Documentation**

##### Strengths

Except for the Requirement Management subject area, Lab-wide documents owned by the Standards Based Management System are up-to-date.

Areas for Improvement

The Requirements Management subject area will be revised and published to reflect an improved requirements management process.

**9.3.17 Worker Safety & Health****Performance (Key Functions)**Strengths

The primary focus areas for FY 2006 included preparing for OHSAS 18001 registration, preparing for the implementation of 10 CFR 851, forming a strategic focus area for Excellence in ESSH, making progress on the requirements management project, providing training for and implementing a Work Observation Process for managers and supervisors, as well as developing and implementing the ISM/Safety Improvement Plan. Each of these activities required considerable effort and support across the Laboratory. Overall, worker safety and health performance of the Lab improved over 2005, as demonstrated in an improved DART rate of 33% and total recordable case rate (TRC) of 8%.

During the fiscal year, the Phase II organizations were successfully audited against the OHSAS 18001 standard. The Phase III organizations successfully completed a pre-assessment visit by the registrar and underwent detailed preparation for the upcoming registrar assessment in the first quarter of FY 2007. The institutional management review during the first quarter led to several improvement actions, which were incorporated into the year's goals and objectives. One of these activities led to the development of a revised ESSH Policy.

Weaknesses

The Laboratory did not achieve the safety performance goals indicated in the PEMP. The "yellow" evaluations in the 2<sup>nd</sup> and 3<sup>rd</sup> quarters were largely attributed to anticipating not achieving the Lab's DART and TRC performance goals as well as the slow progress on completing the SBMS documentation of the subject areas and the requirements management activities. The "red" evaluation in the fourth quarter was largely due to the certainty of not achieving the PEMP goals for injury prevention and the emerging concern for the lack of having credible corrective action plans to address the 10 CFR 851 gaps.

**Documentation**Strengths

The Safety and Health Services Division led the effort to prepare for the implementation of 10 CFR 851, Worker Safety and Health. The major deliverables for this project were the Worker Safety and Health Program Description, the institutional and organizational gap analyses, as well as corrective action plans to address the gaps. During 2006, the institutional gap analyses were conducted and the first drafts of the Worker Safety and Health Program Description were developed.

Ten (10) new SBMS Subject Areas were developed during FY 2006, including: Fall Protection, Injury Management, Lockout/Tagout, Marine Safety, Diving Safety, Fire Safety, Cryogenic Safety, Identification of Piping Systems, Machine Shop Safety, Aviation Safety, and Readiness Evaluations.

Major revisions were made to three (3) SBMS Subject Areas and one (1) ESH Standard: Explosive Safety, Asbestos Safety, Lead, and ESH Standard 1.5.0 Electrical Safety.

Areas for Improvement

The subject areas that implement the functional areas in the Rule are well defined. However, programmatic gaps were identified in industrial hygiene and implementation gaps were additionally identified in electrical safety, pressure safety, material handling, and subcontractor flow down. These gaps will be major focus areas for FY2007.

There are 68 RODs associated with this Management System. Of these, 22 have been verified and 46 are pending verification. Out of these 46 RODs, 27 need to be verified, 16 need to be created, and three need to be finalized. Completing the requirements verification will be a focus area in FY 2007.

## 10.0 Operations Accomplishments in FY 2006

### Operations-wide

1. Implementation and Completion of an Executive Management Training Program for Operations Level I and Level II Managers
2. Implementation of the Integrated Safety Management (ISM)/Safety Improvement Project Plan

### Procurement & Property Management

3. Balanced ScoreCard Report showed a rating of "Excellent"
4. The first E-Pro contract was signed and implemented at BNL
5. PERT review yielded Outstanding results
6. The Property Manager was appointed to the DOE's Property Council
7. BNL Supplier Evaluation system was placed on line

### Counterintelligence Office

8. A Northeast Regional Counterintelligence Office was established and the positive relationship with DOE HQ established in FY05 has been maintained.

### Environmental Restoration Division

9. The Brookhaven Medical Research Reactor (BMRR) control rod blades were removed and shipped to a disposal facility. This allowed for the facility to be re-categorized to a Radiological Facility.

### Facilities & Operations

10. BNL's ESOL Program was recognized by the Literacy Council of Suffolk.
11. A second compressed natural gas (CNG) compressor was installed at the fueling facility.
12. Fire Department Alarm Response times are the best in Suffolk County.
13. Research Support Facility Building (RSB) construction completed.
14. Received an award from the DOE Office of Science for the April 2004 Fleet Management P2 workshop.
15. The DOE Chicago Inspection of the Safeguards and Security Division (SSD) resulted in an overall a Satisfactory Rating, the highest rating achievable.
16. New Safeguard and Security Manager hired to fill the Safeguards and Security Division Manager vacancy.
17. The SSD completed a 100% re-badging of all employees.
18. The Central Steam Facility's soot-blowing opacity excursions reduced to zero for FY06.
19. Developed and opened a new Emergency Operations Center (EOC) at BNL.
20. Exceeded Maintenance Investment Index (MII) target by \$3.1M.
21. Achieved a rating of "Outstanding" in project management for completing all FY06 projects on schedule and within budget.

22. Obtained \$486,000 in Federal Emergency Management Program (FEMP) funding for a project increase the efficiency of a cryogenic cooling system that reduced the electric demand by 1 MW, and will save over 5,000,000 kWh/year.
23. BNL's overall facilities energy usage for FY06 was over 3.7% less than the previous year, and saved over \$1.6 million. This was due, in part, to aggressive conservation in various buildings.
24. Water consumption for FY06 was 49 million gallons less than in FY05, and saved about \$15k in operational costs.
25. Efficient fuel purchasing strategies (buying and storing oil) saved \$109,000 compared to purchasing oil as it is consumed.
26. Participated in the New York Independent System Operator (NYISO) electric curtailment program, saving over \$165,000 and reducing demand by over 2 MW's.
27. No unplanned electrical outages (first time since we have been keeping records).

### Environmental, Safety, Health & Quality

28. Operations led the effort for BNL becoming the first DOE National Laboratory certified to the revised ISO 14001: 2004 Standard.
29. Approximately 9,000 curies of nuclear materials and sources packaged and disposed of at a facility approved for treatment, storage, and disposal.
30. The Environmental and Waste Management Services Division achieved Nevada Test Site Certification for the site.
31. The Environmental Protection Agency (EPA) approved BNL's Facility Response Plan (FRP).
32. BNL honored with a National Partnership for Environmental Priorities Achievement (NPEP) award for reducing mercury waste generation and its polychlorinated biphenyls (PCBs) inventory reduction. Operations served as the project manager for the institution.
33. BNL's External Dosimetry Program was re-accredited by DOELAP.
34. Operations led the effort for BNL becoming the first DOE National Laboratory certified to the Occupational Health and Safety Assessment Series (OHSAS) 18001 standard.
35. Safety Management Leadership and Observation program implemented for Level I, II, and III Managers.
36. Revised the Event/Issues Management Process to strengthen event and issues fact-finding, causal analysis and corrective and preventive action development, implementation, and tracking.
37. Launched a new, web-based Lessons Learned program modeled after the DOE Complex system.
38. The Quality Office Manager awarded Manager of the year from the National Business and Disability Council.



## APPENDIX A

### Discussion of Performance on DOE PEMP Measures and Targets Owned by Operations

#### PEMP Performance Goal 5 – Sustain Excellence and Enhance Effectiveness of Integrated Safety, Health, and Environmental Protection

##### Target 5.1.1.1 - DART Rate

Meet DOE/SC interim goal of 0.35 cases per 200,000 hours worked across the Operations organization. Provide SME and program support to other BNL organizations to enable them to achieve the goal.

##### Assessment (Red)

The DART goals were not met for FY06 for the Operations organization overall. The DART rates for the operations organizations were as follows:

- ESH&Q Directorate – 0
- Facilities & Operations – 0.63
- Environmental Restoration Projects – 0
- Procurement & Property Management – 0
- Counterintelligence – 0

While the above results suggest significant improvement is needed, particularly in F&O, it is notable that the Research Support Building construction project, an \$18M project that is nearing completion at the end of FY06, has experienced no DART cases to date over its 2-year construction period. Also, the zero DART case record in ESH&Q is a significant achievement given the scope of this directorate's activities in FY06.

##### FY07 Follow-on Activities

The initiatives and corrective actions in the ISM/Safety Improvement Plan are designed to create a culture, workplace environment, and worker skill-set that should produce the goal of zero injuries. The most important element in FY07 to drive the DART rate down will be aggressive implementation of the Plan. To that end, the Monthly Review Process for this project must be matured. Construction safety Lessons-Learned on the Research Support Building should be "packaged" and shared broadly.

##### Target 5.1.1.2 – TRC Rate

Meet the DOE/SC interim goal of 0.87 cases per 200,000 hours worked across the Operations organizations. Provide SME and program support to other BNL organizations to enable them to achieve the goal.

##### Assessment (Red)

Goal was not met. TRC rate reduction from FY05 was not significant. The FY06 TRC rates for the operations organizations were as follows:

- ESH&Q Directorate – 0
- Facilities & Operations – 1.27
- Environmental Restoration Projects – 0
- Procurement & Property Management – 0
- Counterintelligence – 0

#### FY07 Follow-on Activities

The initiatives and corrective actions in the ISM/Safety Improvement Plan are designed to create a culture, workplace environment, and worker skill-set that should produce the goal of zero injuries. The most important element in FY07 to drive the TRC rate down will be aggressive implementation of the Plan.

#### **Target 5.2.1.1 – Safety Observation Program for Level 1,2,3 Managers**

Operations will develop the program for the use of level 1-3 managers and provide “roll-out” services to include training and implementing materials. All Operations organization level 1-3 managers will accomplish their assigned safety observation activity goals.

#### Assessment (Green/Yellow)

Operations began this program at the Lab with rollout of the DuPont STOP Program in Facilities and Operations using in-house training staff. The initial launch was unsuccessful. The DDO worked with the ALD F&O and invited the ALD, F&O from ORNL to give the first session. This individual’s credibility as a “Facilities Guy” and his experience with the program resulted in a very successful implementation, although it is now behind schedule. As of the end of FY06 there have been over 400 STOP observations. Feedback from workers indicates general acceptance of the program. However, some suspicion as to management’s motives remains. The ESH&Q Directorate worked with their counterparts within the Battelle ES&H community of practice and arranged the DuPont training course for BNL supervisors and managers. They also imported a database to track observational data (for trending and analysis) from ORNL at no cost.

#### FY07 Follow-on Activities

Formal expectations for frequency of line manager worker observations must be established and included in individuals’ FY07 performance goals. Procedures and R2A2s for trending and analysis must be developed, and a reporting process for the results established.

#### **Target 5.2.1.2 – Task Level Worker Involvement**

Operations will develop and implement the institutional requirements for this program and provide “roll-out” services to include training and implementing materials. Operations will also provide the project management for the remaining phase of OHSAS completion and develop and implement a plan to support completion of all JRAs. The Operations organization will fully implement these programs.

#### Assessment (Green)

The ESH&Q Directorate provided the project manager for OHSAS Phase III. All efforts of operations organizations participating in OHSAS re-registration and preparing for Phase III registration were successful. By the end of FY06, 98% of the JRAs required for the registrar’s visit in December 2006 were completed. A quality problem was discovered, however, in several of the existing (Phase I) JRAs. A process to integrate JRAs into day-to-day work planning activities has not yet been developed. In addition, several of the incidents in FY06 that resulted in worker injuries indicate that the hazard recognition skills of workers are not fully developed. An example is the “ships ladder” incident, where no one recognized the slip/fall hazard associated with brush growing through the ladder. A worker-management team was set up to ensure workers possess the necessary skills for effective hazard analysis for “worker planned work” and the processes to support these efforts are available. The team was working effectively at the end of FY06.

#### FY07 Follow-on Activities

Continued emphasis on developing worker hazard recognition skills is needed. The JRA integration process is part of the ISM/Safety Improvement Plan and must be given a high priority. The OHSAS team must be recognized for their significant achievement and (assuming success in registration) a celebration for the Lab achieving Phase III must be held.

#### **Target 5.2.1.3 – Issues Management**

Operations will develop and implement the institutional requirements for this program and provide “roll-out” services to include training and implementing materials. Operations will also provide the project management for the development of the Lab-wide issues management program and will coordinate closely with the Integrated Planning Office.

#### Assessment (Green)

This effort was re-titled as the “Events and Issues Management” process. This was a Lab wide effort and was highly successful. It included a cross-functional team to develop the revised process, which was based on the concept of using the DOE ORPS as the framework for the local reporting process and designating “below ORPS” thresholds (SCBNL). The process includes using the current ORPS categorizer network for these events to minimize training and implementation time. The ESH&Q Directorate developed an Events and Issues Management subject area, and provided causal analysis training for over 50 people using an external consultant and DOE resources.

#### FY07 Follow-on Activities

The program will need to be rolled-out and an assessment conducted of its effectiveness. (The ISM/Safety Improvement Plan requires an effectiveness review of all its elements.) A process as well as R2A2s for the collection and analysis of the generated information need to be developed to ensure maximum benefit to the Lab.

#### **Target 5.2.1.4 – Management Review Process**

Operations will develop and implement the institutional requirements for this program and provide “roll-out” services to include training and implementing materials as needed. Operations will also provide the project management for the development of the Lab-wide management review process and will coordinate closely with the Integrated Planning Office. (Many of the directorates already have a process in place, particularly those with OHSAS certification.)

#### Assessment (Green)

All departments, divisions, and directorates conducted their EMS and OSH management reviews and published the proceedings on the OHSAS website. The Management Review Process of the EMS and OHS stimulates line ownership of environmental performance, resulting in improvements at all levels. Performance against the FY06 objectives and targets was reviewed and new objectives and targets were developed for FY07. ESH&Q provided subject matter experts to support the line organizations in developing and producing their management reviews.

#### FY07 Follow-on Activities

The FY07 objectives and targets should be incorporated into the Operations Business Plan. The successful changes made to the institutional level OHSAS/EMS management review should be captured in a procedure, so the lessons-learned can be documented. In addition, the formal management review approach should be evaluated for possible adoption by Management System Stewards for all Laboratory management systems.

### **Target 5.3.1 – Environmental Management System Improvement**

Operations will implement the contract metric 5.3.1.1 as stated.

#### Assessment (Green)

All targets were achieved on or ahead of schedule. This measure promoted the continual improvement of the BNL Environmental Management System. The ISO 14001 EMS is well integrated across the Laboratory and the management system was recertified in June 2006 by a third party auditor. BNL received the Federal Electronics Reuse and Recycling Challenge (FERRC) Award for contributing to DOE's success in recycling more than a half million pounds of excess electronics. BNL reused or recycled 69,000 pounds during the FERRC rating period. As a member of the prestigious EPA Performance Track Program, BNL achieved two of its four goals already in FY06, a year ahead of schedule.

#### FY07 Follow-on Activities

Operations organizations, particularly Plant Engineering, should evaluate new product specifications to determine if "end of life-cycle" recycling ease can be designed into our projects from the beginning.

### **Target 5.3.2 – Pollution Prevention**

Operations will implement the contract metric 5.3.2.1 as stated.

#### Assessment (Green)

The Waste Management Program achieved certification for shipment of BNL radioactive waste to the Nevada Test Site (NTS). This success opens new comprehensive and cost effective radioactive waste disposal options for BNL. The Waste Management Program continued to make phenomenal progress shipping excess nuclear materials to the Nevada Test Site, including several waste streams that had been stored for decades: HFBR Control Rod Blades, Janus Plates, and Three Mile Island Resins. This progress significantly lowers BNL's liability in terms of regulatory, security, and PAAA risk.

#### FY07 Follow-on Activities

BNL should continue to pursue other/all opportunities to reduce nuclear inventory.

## **PEMP - Performance Goal 6 – Deliver Efficient, Effective, and Responsive Business Systems and Resources that Enable the Successful Achievement of Laboratory Missions**

### **Target 6.2.1 - Procurement Balanced Scorecard**

Operations will implement the contract metric 6.2.1 as stated.

#### Assessment (Green/Yellow)

The Procurement Balanced Scorecard self-evaluation rating was B+ (3.39). The PERT review was successful as mentioned above. Notable this year was an A- rating in Customer Satisfaction, one of the highest ratings ever received. Significant positive results were also observed in employee alignment and in a subset of the socio-economic goals (small/disadvantaged, 8a, and women-owned). The Cost- to-Spend ratio continues to be an issue due to the under-staffing of the Procurement Division. The implementation of the Improvement Plan was also impacted negatively by staffing shortages and therefore received a low rating.

#### FY07 Follow-on Activities

The BSC Corrective Action Plan, including solving the staffing issue, must be vigorously pursued in FY07. The BSC CAP should be included in the FY07 Operations Business Plan.

#### **Target 6.2.2 – Property Balanced Scorecard**

Operations will implement the contract metric 6.2.2 as stated.

#### Assessment (Green)

The Property Management Balanced Scorecard self-evaluation was A- (3.52). Most areas were strong. The principal issues were that Laboratory organizations offered insufficient items for disposal and the off-road utilization of SUVs. No corrective actions were considered necessary. While BSC performance was strong overall, there remains a concern over the growing trend of property being lost or stolen. The copper theft at CAD is an example, as are losses of computers in several organizations. One advancement made in FY06 was the development of a process to ensure that CI and cyber security staff are notified whenever a computer is reported lost or stolen so that an attempt can be made to determine if sensitive or PII information may have been compromised as a result.

#### FY07 Follow-on Activities

Property Management and Security should examine the lost/stolen property problem together and develop improved management approaches.

### **PEMP - Performance Goal 7 – Sustain Excellence in Operating, Maintaining, and Renewing the Facility and Infrastructure Portfolio to Meet Laboratory Needs**

#### **Target 7.1.1.1 – 3PBP**

Operations will implement the contract metric 7.1.1.1 as stated.

#### Assessment (Green)

The Lab's successful use of the 3PBP process continued, and process enhancements were made to ensure an optimum balance of priorities. In addition to the GPP and DOE operating funds allocated to projects, BNL secured funding from the (New York State) Empire State Development Corporation (ESDC) that was used to finance critical infrastructure needs for EBIS and BNL Supercomputer support.

#### FY07 Follow-on Activities

While 3PBP continues to serve the Laboratory well as a prioritization tool, the overall quality of ADSs submitted in FY06 was poor. Many did not adequately address the justification for the proposed project, the risk associated with the condition, or risk mitigation opportunities. This issue needs to be addressed in the FY07 Operations Business Plan.

#### **Target 7.1.2.1 – Building and Electrical System Reliability Index**

Operations will implement the contract metric 7.1.2.1 as stated.

#### Assessment (Green)

The continuing effectiveness of maintenance investment, planning, and prioritization was reflected in the fact that FY06 experienced no unplanned electrical outages and achieved a facility reliability index of 0.9999. These accomplishments are particularly noteworthy given the extent of utility work on site, which included the construction of the satellite Chilled-Water Plant, various electrical distribution upgrades, and work associated with both the Research Support Building and the Center for Functional Nanomaterials.

#### FY07 Follow-on Activities

As noted above, continued planning for chilled-water needs is critical. Also, the work on the CAD Arc Flash CAP must be monitored closely to assure that any safety and reliability issues are identified and addressed appropriately. The 480v switchgear issue must be investigated to ensure that any decisions regarding risk are appropriate.

#### **Target 7.1.2.2 – Maintenance Investment Index**

Operations will implement the contract metric 7.1.2.2 as stated.

#### Assessment (Green)

The Laboratory continued to aggressively manage the physical plant in FY06 both in terms of condition and capability. The unfortunate budget issues faced by the Laboratory in the beginning of FY06 forced a slow start to both the GPP and MII programs. Many projects were not started until January. However, careful financial management and early release of engineering funding allowed key GPP projects to be completed on time despite the delay. Similarly, the MII target was exceeded (112%) for FY06.

#### FY07 Follow-on Activities

The new “deferred maintenance” funding mandate will require additional planning and prioritization processes.

#### **Target 7.2.1.1 – Ten Year Site Plan Alignment with Business Plan; Electric Power Supply**

Operations will ensure integration of the Ten Year Site Plan with the Laboratory’s Business Plan and alignment of 3BPB investments with the Business Plan. In addition, Operations will continue to work in conjunction with the Laboratory Director to pursue a multi-faceted approach to securing a long-term, lower cost source of electrical power for BNL.

#### Assessment (Green)

Perhaps the most significant achievement in this area was securing early funding for an SLI project (\$18M) to rehab some sections of permanent science buildings. The Lab Upgrades Phase I project was accelerated to an FY07 new start. Plant Engineering aggressively scoped and prepared budget support documents for this important project, which has the highest priority in our Master Plan. This is completely consistent with the Lab’s Strategic Plan, which envisions future science at BNL utilizing much of the current building infrastructure.

The Ten-Year Site Plan was prepared by Plant Engineering in close coordination with Office of Policy & Strategic Planning to ensure close integration, and submitted to senior management on time.

The Laboratory’s management of electrical power was also highly successful in FY06. The power cost negotiated was only \$06.6/kwh for the year, compared to \$06.5/kwh envisioned in the April 2005 NYPA Agreement, despite significant market fluctuations in oil and natural gas prices, and a very demanding summer season on Long Island.

The DDO also focused on obtaining low cost electrical power into the future through a series of discussions with energy development companies. The possibilities to utilize wind, cogeneration, and the purchase of capacity from the planned Caithness power plant were all explored in depth.

Another means for controlling and stabilizing electrical rates is the use of hedging. Working with the ALD and CEGPA, BNL was able to secure support from the Long Island Power Authority (LIPA) for the use of their hedging consultant, at no cost to BNL, to develop a hedging strategy for the Lab. This work was completed in 2006 and implemented toward the end of the year. Benefits are expected in FY07.

#### FY07 Follow-on Activities

The leadership of NY State is expected to change in FY07 with the election of a new Governor. This is likely to result in leadership changes in NYPA, and possibly LIPA. In FY07, Operations and CEPA will need to collaborate closely to establish good working relationships with new NYPA leadership. This is crucial since the current NYPA contract expires in June 2008.

#### **Target 7.2.2.1 – Project Management**

Operations will implement the contract metric 7.2.2.1 as stated.

#### Assessment (Green)

Performance in the project management area was outstanding with a rating of 0.99 out of 1.0. The Research Support Building construction was completed on time and within budget, despite materials delivery problems and the substantial redesign performed in FY05. It is noteworthy that this \$18M project was completed with no DART cases and only two minor recordable cases, a reflection of the emphasis placed on construction safety. All funds obligation targets for line item and GPP were met or exceeded. Schedule and scope targets for GPP projects completed in FY06 were met.

#### FY07 Follow-on Activities

The project to obtain Lab certification for its Earned Value Management System (EVMS) will require development of a Project Management management system and subject area.

### **PEMP - Performance Goal 8 – Sustain and Enhance the Effectiveness of the Integrated Safeguards and Security Management (ISSM) and Emergency Management Systems.**

#### **Target 8.1.1.1 – Emergency Management Procedures and Processes**

Operations will complete the development of the Hazards Assessments (EPHAs) for the top 12 most significant facilities and develop the Emergency Action Levels (EALs) and response procedures necessary to ensure effective management of an emergency involving these facilities.

#### Assessment (Red)

The Laboratory made several advances toward its goal of a “Best in Class” capability in emergency management. Progress with the Hazards Survey and Emergency Planning Hazards Assessment work was slower than expected due to the extent of BNL’s chemical inventory, the complexities associated with site adapting the atmospheric dispersion and event release models, and the need to re-accomplish some previously completed work to achieve compliance with the new DOE Order 151.1C, which was published in November 2005. The Site Hazards Survey was revised. New Emergency Action Levels (EALs) were completed and templates were developed for the Protective Action Plans.

#### FY07 Follow-on Actions

A project plan needs to be established to manage monitor the emergency management activities, similar to the ISM/Safety Improvement Plan. A Communications Plan is also needed.

#### **Target 8.1.1.2 – Emergency Event Reporting and Mitigation**

Operations will report, manage, and mitigate the consequences of all actual emergency events.

#### Assessment (Yellow)

One operational emergency was successfully managed during FY06. This OE was a response to an Arc Flash event at the Collider-Accelerator Department (DOE Type B Team Report had no findings for emergency management). Another event involved a construction injury, which required successful medical stabilization at the scene and transfer to the Suffolk Police Medevac.

The DDO served as Crisis Manager for both of these emergency response events. A third event, involving a suspected release of a gas at the cylinder warehouse was less successful, and several actions taken may have had exposed workers had it been an actual release. Critiques were held and lessons-learned incorporated in training and/or procedures, as applicable.

FY07 Follow-on Activities

Additional training is needed for Crisis Managers.

**Target 8.1.1.3 – Reviews and Inspections**

Operations will achieve a Satisfactory or above on the (Emergency Management) OA inspection of BNL.

Assessment (Yellow)

The OA evaluation of Emergency Management was postponed by DOE until August 2007. However, a site-wide graded exercise was planned and executed by BNL, which also included outside peer review. The DDO participated in the planning of this exercise and the training of Crisis Managers. In the latter role, he attended each of the training classes and provided relevant examples from his experience (both BNL and military) to help illustrate the techniques being presented.

FY07 Follow-on Activities

As noted above several actions are required to ensure satisfactory rating on the upcoming DOE evaluation. [Re-phrase; there are no actions noted above.]

**Target 8.3.1 .1 – Cultural Integration of Safeguards**

Operations will implement the contract metric 8.3.1.1 as stated.

Assessment (Yellow)

During FY06, the Integrated Safeguards and Security Management (ISSM) program was promoted through the use of articles in the Monday Memo and BNL Bulletin, upgrades to the ISSM web page, and periodic ISSM Points of Contact meetings. These activities increased awareness of the ISSM program throughout the Lab.

FY07 Follow-on Activities

No activities listed.

**Target 8.3.2.2 - Employee & Management Awareness of Safeguards**

Operations will implement the contract metric 8.3.2.2 as stated.

Assessment (Yellow)

During FY06, the Integrated Safeguards and Security Management (ISSM) program was promoted through the use of articles in the Monday Memo and BNL Bulletin, upgrades to the ISSM web page, and periodic ISSM Points of Contact meetings. These activities increased awareness of the ISSM program throughout the Lab.

The security clearance backlog was eliminated.

FY07 Follow-on Activities

Activity to implement ISSM should be accelerated.

**Target 8.3.1.2 – Safeguards Risk Management**

Operations will implement the contract metric 8.3.1.2 as stated.

Assessment (Green)

In the area of safeguards and security planning and documentation, approximately half of the effort to update the Site Security Plan was completed during FY06. The BNL Risk Assessment Document was revised to include all new major projects (CFN, NSLS II, BGRR), and the PPA listing was updated. The Foreign Visits and Assignments subject area was published in SBMS and the OPSEC subject area was finalized.

FY07 Follow-on Activities

A review of BNL's implementation of the Design Basis Threat should be conducted.

**Target 8.3.2.1 – Reviews and Inspections**

Operations will implement the contract metric 8.3.2.1 as stated.

Assessment (Green)

An ISSM survey was conducted that involved site visits to 17 Departments and Divisions. Interviews with about 10% of the staff and the inspections of the buildings revealed several issues. The appropriate follow-on actions were taken.

FY07 Follow-on Activities

None identified.

**Target 8.4.1.1 – Classified Event Reporting and Mitigation**

**Target 8.4.1.2 – Reviews and Inspections**

Operations will implement the contract metric 8.4.1.1 as stated.

Assessment (Green)

In September 2006, a Communications Security (COMSEC) inspection was conducted and concluded with no findings. The necessary updates to the Security Refresher Training were incorporated, and by year-end, over 75% of clearance holders had completed the refresher training using this updated version.

FY07 Follow-on Activities

None identified.



## APPENDIX B

### Operations Projects and Initiatives

#### Introduction

The discussion below provides additional detail on the Operations projects and initiatives summarized in Section 7.0 of this report.

#### Deputy Director for Operations (DDO) Level

- **Safety Improvement/ISM Preparation Plan**

Develop and implement a detailed Safety Improvement Plan to upgrade BNL's worker safety performance while also preparing the Laboratory for the DOE/OA ISM evaluation.

Assessment (Green)

The DDO worked extensively with the ISM Project Manager to develop the BNL ISM/Safety Improvement Project Plan concept and format. In many cases, he either authored or significantly edited the material. He also initiated a process of visiting DOE HQ and presenting the Plan and the status/progress to the ISM Team Lead. In addition to the DDO, these discussions included the ALD for Policy and Strategic Planning, the ALD, ESH&Q, and the ISM Project Manager. The ISM Plan was 53% complete at the end of FY06, or slightly ahead of schedule.

FY07 Follow-on Activities

The ISM Plan must be updated to include a number of new initiatives and corrective actions arising from the CAD Arc Flash CAP. In addition, the monthly review process for the Plan should be updated and streamlined. Participation in ISM Plan monthly reviews must be expanded to include Policy Council members. The HQ briefings should continue and expand to include Emergency Management.

- **Improve the Performance-Based Management Process/Implement the Contractor Assurance Process/Improve the Corporate Assurance Process**

Continue to improve the Quarterly Reporting Process and develop new processes and/or process modifications to bring the Laboratory into compliance with the Contractor Requirements section (CRD) of DOE Order 226.1 – "Implementation of Department of Energy Oversight Policy". Coordinate and implement improvements to the Corporate Assurance process as directed by the BSA Board Assurance Council.

Assessment (Green)

The DDO continued to develop the quarterly reporting process and the Corporate Assurance Process during the first quarter of FY06. In January of 2006, the responsibility for these two processes was transferred to the ALD for Policy and Strategic Planning. During the remainder of FY06, the DDO continued to collaborate with the ALD on improving these processes, and Operations has been supporting the effort through the staff of the Quality Management Office.

#### FY07 Follow-on Activities

Operations should develop a separate Operations Business Plan for FY07. This new plan is intended as a test for the remaining/other divisions of the Lab, which will be required to prepare their own divisional business plans in FY08. In addition, Operations needs to expand its series of "Social Operating Mechanisms" to include new processes for quarterly reviews of performance measures (including PEMP targets), Management Initiatives, and corrective action status.

- **Support Improvement of the Institutional Feedback and Improvement Process**

Operations will develop data streams and analytical processes to provide information on institutional level trends and emerging issues for senior management consideration and action. This will be accomplished through enhanced reporting and the formation of an "Operations Forum" process.

#### Assessment (Green)

Operations developed the Operations Forum concept using the PNNL model for analyzing performance results as presented by SMEs. The results of the analysis would be presented to the DDO for further consideration and discussion with the members of the Policy Council. A charter was developed and membership established. The Director of Environmental Projects accepted the role of Chair and the NSLS Associate Chair for Operations accepted the position of Vice Chair. The first session was held in early FY06. The results of this meeting suggested that changes to the process were needed, and Operations continued to work to revise the process throughout the remainder of FY06.

#### FY07 Follow-on Activities

The Forum should meet quarterly and provide formal feedback to the DDO. Issues raised by the Forum should be communicated to the Policy Council for consideration and action as appropriate. Operating procedures should be established and the Forum recognized in the Laboratory's Committee Handbook published in SBMS.

- **Achieve Completion of SBMS**

Revamp SBMS system to ensure that Lab requirements, policies and procedures in the system are current by 2nd Quarter FY06.

#### Assessment (Not Rated - Goal Deleted by Laboratory Director)

Loss of support early in FY06 made this goal unattainable. The SBMS project remains incomplete. In Mid-FY06 the responsibility for Management System Stewards was re-assigned to their line managers – either the Lab Director, the DDO or the Deputy Director for Science. Operations continued work on replacing and removing legacy documents from SBMS for Operations-owned Management Systems.

#### FY07 Follow-on Activities

All Operations MS Stewards will be required to complete their SBMS assignments, and specific tasks will be captured in the FY07 Operations Business Plan. Progress will be monitored through quarterly reviews of the plan.

- **Reactor D&D Work**

Complete all actions necessary to secure this work for BSA under the conditions specified by the BSA Board. Implement and effectively manage the FY06 portion of the baseline.

Assessment (Yellow)

The goal of securing the Reactor D&D work for BNL was achieved. This will assure the continuity of the ERP Director and his principal staff, assure that control for this key project remains with BSA, and result in a \$2M+ per year contribution to the Lab's G&A. However, the associated criterion of securing the work under the/all terms specified by the BSA Board was not met since DOE determined that no additional fee would be approved for this work.

FY07 Follow-on Activities

Continue to appeal DOE's decision not to permit an incremental fee. Pursue acceleration options for the BGRR and HFBR and maintain community trust through open and honest communication as baseline changes occur. Develop and gain community and regulatory support for an HFBR remedial action plan.

- **Counterintelligence Regional Office**

Develop a MOU and other operating basis documents to implement the initiative to establish a northeast regional CI office at BNL. Complete MOUs with all organizations being serviced.

Assessment (Green)

This goal has been accomplished. MOUs with several organizations have been put in place and DOE HQ is pleased with the progress made in establishing the Northeast Regional Counterintelligence Office (NRCO). The positive turnaround in our relationship with DOE HQ established in FY05 has been sustained.

FY07 Follow-on Actions

Hire SCIO/Manager of NRCO. Continue to maintain positive relationship with DOE HQ CI; expand this relationship to DOE HQ Office of Intelligence.

- **SCPA and IBEW Contract Negotiations**

Develop and support a business case for proposals to change provisions in the present contracts. Develop plans for continuing Laboratory operations, including construction projects, in the event of a work slowdown or strike by either or both bargaining units.

Assessment (Green)

This goal was met. The DDO met with Operations managers early on in FY06 to discuss establishing a business case for changes to the IBEW contract. The contract negotiations were successful in achieving some creative work rules that will, for the first time, allow multi-craft flexibility. While there were some concessions made regarding salary upgrades, the new contract with IBEW will save significant cost and time in the future. Preliminary indications is that these changes are already generating savings.

## Facilities & Operations Directorate

- **Major Construction**

Research Support Building –Complete construction in the Fall of 2006.

Assessment (Green)

This complex goal has been accomplished. The Research Support Building was completed on time, within budget, with no lost time injuries (DART cases), and only two minor TRC incidents.

Augment Plant Engineering construction safety program as required to support RSB and CFN construction.

Assessment (Green)

The DDO directed a move to full time ESH coverage of both CFN and RSB when safety issues began to arise. This initiative was instrumental in producing the outstanding safety record of no DART and only 2 minor TRC cases during the construction of the RSB.

Achieve certification of a BNL Earned Value Management System, or complete all work to prepare for the OECM review.

Assessment (Green/Yellow)

The OECM review was postponed until FY07. In preparation, BNL retained a consultant in FY06 who has been working with BNL staff to develop a Project Management System management system and program description. A subject area was drafted. Procedures are being corrected within ERP documents to adopt consistent terminology. The DDO transitioned leadership of this effort of preparing for the OECM review as well as achieving certification of a BNL EVM system to the Plant Engineering Division manager when the previous project manager and PE EVMS Specialist left the Plant Engineering Division and joined the NSLS II project staff.

FY07 Follow-on Activities

Continue efforts to achieve EVMS certification for BNL. Capture and broadly distribute Lessons Learned on construction projects.

- **OSHA Findings**

Support completion of the OSHA findings through the use of Plant Engineering crafts and the management of the GPP and Operating – funded projects.

Assessment (Green)

Significant progress was made toward closing the OSHA findings in FY06 and the SHSD continued to track the closure of the OSHA actions. All priority 1 and 2 items were closed. The status of OSHA findings at end of FY06 were as follows:

1189 open findings at beginning of FY06  
951 findings completed at a cost of \$1,228,869  
153 findings, with BHSO concurrence, determined to require no action  
1104 Total findings abated

85 findings still need to be abated

#### FY07 Follow-on Activities

Include OSHA project completion in FY07 Operations Business Plan and track progress through Operations quarterly review.

## **ESH&Q Directorate**

- **Shipment of Excess/Legacy Nuclear Materials**

Continue campaign to package, identify pathways and ship excess/legacy nuclear materials.

#### Assessment (Green)

The DDO and the ALD for ESH&Q initiated a walk-down of all Material Balance Areas (MBA) onsite. These MBA walkthroughs were completed in FY06. A number of corrective actions were identified, which were also completed in FY06, further strengthening protection of these materials. The Laboratory continued to reduce its nuclear materials security risk profile by safely shipping a significant quantity of material offsite for disposal. Items of SNM shipped in FY06 included the Janus Fission Converter Plates and the HFBR Fuel Coupons. These SNM shipments reduced fissile material onsite by about 90%.

#### FY07 Follow-on Activities

Continue to ship legacy materials as funding allows.

## **Procurement and Property Management**

Complete the preparations for, and achieve a successful outcome on the planned DOE-Contractor PERT reviews of BNL's Procurement and Property Management systems. Success factors: Procurement System and Property Management System are re-certified by DOE.

#### Assessment (Green)

There was much concern at the beginning of FY06 that a poor PERT review in Procurement would hurt the NSLS II project plans. The PPM Division Manager and her staff worked aggressively to prepare for the PERT including a robust internal "readiness review". The DDO and PPM Manager interacted with BHSO staff to ensure BHSO was on board and supportive. In addition, the PPM Manager voluntarily participated in several PERT reviews at other sites prior to BNL's to learn how the evaluations were performed. In addition, she developed and managed a project plan for this preparation effort and made it a priority to involve all of the PPM staff in the preparations. The PERT review was a success despite staffing shortages and a heavy workload throughout FY06.

#### FY07 Follow-on Activities

PERT corrective actions must be tracked to completion.

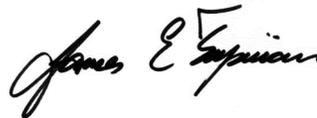
# FY 2007 OPERATIONS BUSINESS PLAN

December 15, 2006



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Andrew McNerney  
Assistant Laboratory Director  
Facilities & Operations



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James Tarpinian  
Assistant Laboratory Director  
Environment, Safety, Health & Quality



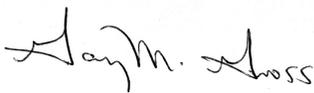
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Les Hill  
Director  
Environmental Restoration Projects



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Mary Faith Healey  
Manager  
Procurement & Property Management



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Gary Gross (Acting)  
NE Regional Counterintelligence Office  
Project Manager



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Steven Coleman  
Integrated Safety Management



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Michael J. Bebon  
Deputy Laboratory Director of Operations

**Note**

*Numerous activities listed in this plan require incremental funding.  
These activities will be implemented as such funding is provided.  
If incremental funding is not provided, “best efforts” will be employed to  
reallocate available funding and priorities.*



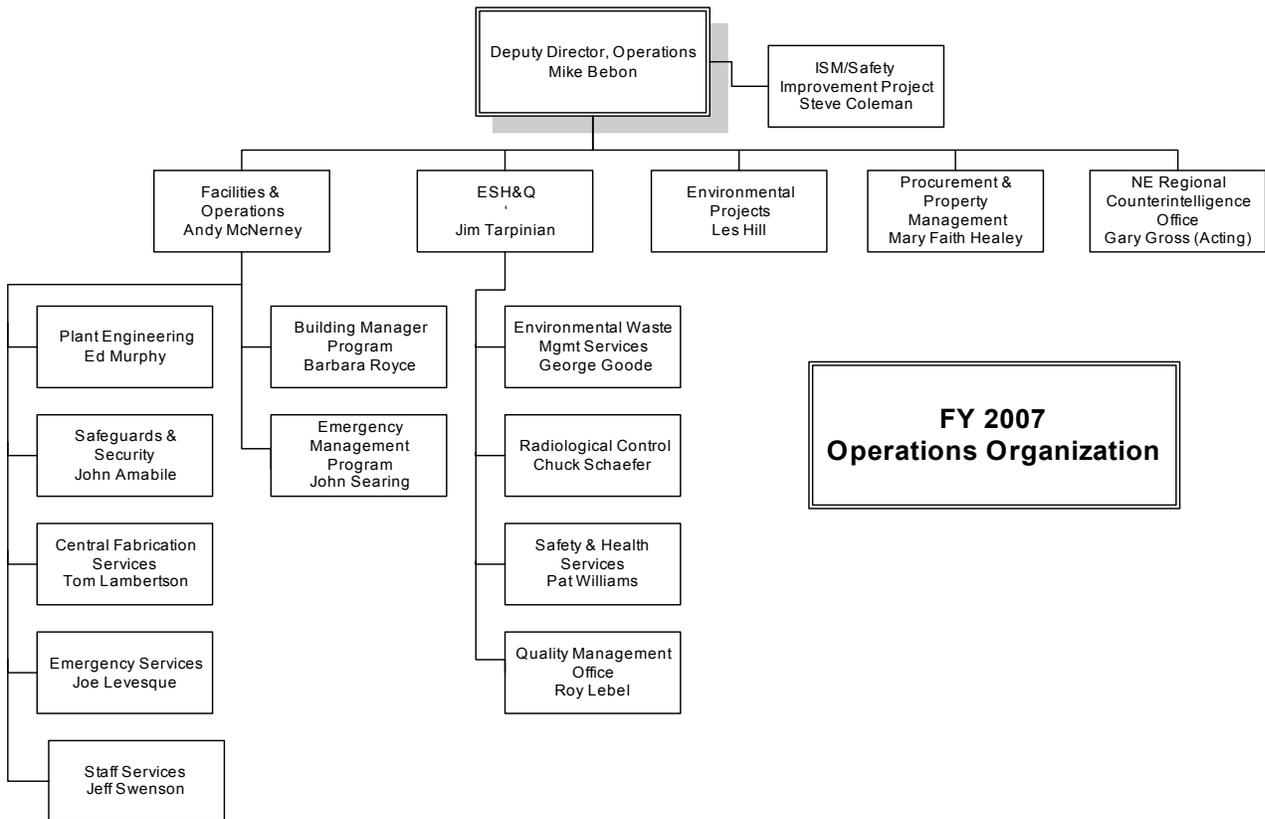
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## 1.0 Operations Organization

The operations organization, entering FY07 is as shown below:



No significant organizational changes are planned for the Operations Organization at the Division or Office level in FY07. The most significant organizational change will occur below the Division level with the realignment of responsibility for the Radiological Assistance Program (RAP) from the Radiological Control Division to the Nonproliferation and National Security Dept.

While a Lab organization chart level change is not anticipated in Procurement & Property Management, decisions will be required regarding the structure and relationship of the procurement staffing to be associated with NSLS II and the “central” Procurement Group. Some reorganization may be needed in Procurement as people are dedicated to NSLS II.

If DOE decides to compete the M&O contract for BNL, one or more senior temporary reassignments may be needed if the DDO and ALDs are required to participate in the BSA Proposal Team.

Several key line management positions are expected to be filled in FY07 (or before), including:

- Plant Engineering: Manager, Engineering & Construction Services (ECS).  
Note: Interim to become permanent if NSLSII is successful.
- Counterintelligence: Senior Counterintelligence Officer/NE Regional Office Manager.

The following individual “special individual assignments” are planned, or will continue:

- **Steve Coleman** will continue in his role as ISM/Safety Improvement Project Manager through FY07.
- **Ed Murphy** will serve as the Project Manager for the Earned Value Management System project.
- **Mark Toscano** will continue to serve as the Project Manager for the Alternative Financing project for Housing.
- **Pat Williams** will serve as the Project Manager for the Industrial Hygiene Monitoring Project and the 10CFR851 Compliance project.
- **Dave Dale** has joined the NSLS II Procurement Team.
- **Chris Johnson** is serving as the Laboratory’s Work Control Coordinator.
- Identify a management champion and project manager for the **Human Performance** initiative.
- Identify a project manager for the **Electrical Safety 70E Implementation** (e.g., arc flash calculations, postings, PPE requirements, NRTL/AHJ program – probably someone in Plant Engineering).
- **John Selva** will serve as project manager for the **Unneeded Materials and Chemicals Disposition Project**.
- **Steve Stein** will continue in his role as the OHSAS lead auditor for BNL.
- **George Goode** will continue in his role as BNL’s Environmental Management System Representative.
- **Jim Tarpinian** will continue his role as BNL’s Occupational Safety and Health Management System Representative.
- **Mike Bebon** will continue in his role as BNL’s representative on the NLIC and the EFCOG.
- Identify a project manager and management champion for the **Requirements Management Project** within SBMS.
- **John Searing** will continue his role in the Office of Emergency Management.

The following management/staff development actions are planned:

- The Operations Organization will launch a Leadership Development seminar program. Initial participants will be the **Level 1 and 2 managers**. At least one additional program will be offered for **Level 3 managers** and below during FY07.
- An Internship Program will be established in PPM to provide a path to Contracts Specialist.
- **Steve Coleman** will replace Doug Ports as the BNL Alternate Representative to the Battelle Laboratory Operations Committee.
- Three Plant Engineering ECS staff will be selected to become LEEDS Accredited professionals.
- An Internship Program will be established in PPM to provide a path to Contracts Specialist.
- Four Level 2 and 3 managers will participate in Battelle Strategic Leadership Training.
- Four Level 3 F&O managers will be provided an opportunity to attend Management training.
- Two managers will earn the Executive Safety Management Certificate from the American Society of Safety Engineers (ASSE).
- Two managers will earn the Certified Hazardous Materials Manager certification.



## 2.0 Institutional-Level Activities

These activities will be undertaken in FY 2007 by various organizational elements within the Operations organization. They are differentiated from the Operations Level Activities in Section 3.0 in that they directly and significantly impact Laboratory-Level ability to operate Goals and Objectives under one or more of the six Strategic Focus Areas.

### Institutional Activities

Activity	Strategic Focus Area	FY07 PEMP Target	Driver	Responsible Manager	Supporting Organizations	Resource Requirements
<u>NSLS II Support</u> 1 -Major Procurements (AE, CM, Project Controls)	Frontiers of Science	7.2.1		PPM Mgr	NSLS II, EP, Legal	NSLS II, EP, Legal
2 – Procurement Plan FY08/09	Frontiers of Science	7.2.1		PPM Mgr	Legal, EP	NSLS II Base Program
3 – Construct Add'l NSLS II Project Office Bldg	Frontiers of Science	7.2.1		DDO	NSLS II	NSLS II Base Program
4 – Complete Environmental Assessment	Frontiers of Science	7.2.1		ALD, ESHQ	NSLS II, Legal	NSLS II Base Program
Develop and Execute Warehouse Removal Plan	Frontiers of Science	7.2.1	Demolition of Existing Warehouses Required for NSLS II Siting	PPM Mgr	All F&O, PPM	Base Program
Provide Support for NSLS II Shielding Design/ Calculations	Frontiers of Science	No	NSLS II Project Completion	ALD ESHQ	NSLS II Project Team	Base Program
CFN CD-4a; Install 90% of Technical Equipment	Frontiers of Science	7.2	Critical BES Facility	ALD, F&O	All F&O, PPM	CFN Project & Lab G&A Funding
EBIS Conventional Construction	Frontiers of Science	No	Nuclear Physics Line Item	ALD, F&O	All F&O, PPM	Incremental Need \$1.3M
Blue Gene Complete Space Renovation, Provide Addit'l Utility Capacity	Frontiers of Science	No	Enable Operation of IBM Supercomputer	ALD, F&O	All F&O, PPM	Incremental Need \$5M
Pilot Executive Management Course	Attracting/ Sustaining Top Talent	No		DDO	All Operations Managers	Base Program

Activity	Strategic Focus Area	FY07 PEMP Target	Driver	Responsible Manager	Supporting Organizations	Resource Requirements
Complete Research Support Building on Time on Budget;	Modernize Infrastructure	7.2	Facility Upgrades	ALD, F&O	ESH&Q (ORE)	Incremental Need \$150K
Refine and Execute RSB Consolidation Plan	Modernize Infrastructure	7.2	Space Consolidation	ALD, F&O	Tenant Organizations	Incremental Need \$150K
Laboratory Renovation Obtain CD1, CD2	Modernize Infrastructure	2.1, 2.2	Facility Upgrades; Laboratory Competitiveness	ALD, F&O	PPM	SLI Program Funding Provided
Renovate Housing	Modernize Infrastructure	No	Laboratory Competitiveness	ALD, F&O	EP	3 <sup>rd</sup> Party Financing
Reduce Maintenance Backlog	Modernize Infrastructure	7.1	Compliance with DOE Goal to Reduce Deferred Maintenance Backlog	DDO, ALD F&O	EP, EM, SC	Incremental Need \$4.8M
Develop, Implement Strategy for Negotiating NYPA Contract Renewal	Improve Quality, Reduce Cost	No	Laboratory Competitiveness	DDO	Legal, PPM, ALD F&A, EP, CEGPA	Base Program
Develop, Define BNL Project Management System	Improve Quality, Reduce Cost		Laboratory Competitiveness	DDO	EP, PPM	Base Program
Achieve Earned Value Mgt System Certification	Improve Quality, Reduce Cost	2.1, 2.2	Compliance Required for NSLS II	ALD F&O	EP, PPM, AD, NSLS II, CFN, Budget	Incremental Need \$100K
Effective Performance Management – Open ID, Reporting, Analysis, and Timely Disposition of Significant Deviations from Expected Performance (Implement Redesign E/I Process)	Improve Quality, Reduce Cost	5.2.1.5 6.4.1.2	Annual Lab Plan	ALD, ESHQ	All BNL Organizations	Base Program
Effective Corporate Assurance	Improve Quality, Reduce Cost	4.2.1, 6.4.1	Annual Lab Plan	ALD ESHQ	ALD P&SP, ALD ESH&Q, MS Stewards, POCs	Base Program

Activity	Strategic Focus Area	FY07 PEMP Target	Driver	Responsible Manager	Supporting Organizations	Resource Requirements
Meet Contract Performance Expectations (DOE Rating >= B+)	Improve Quality, Reduce Cost	No	Laboratory Competitiveness	DDO, ALD ESH&Q, ALD F&O	All BNL Organizations	Base Program
Execute ISM/Safety Improvement Plan*	ESS&H Excellence	5.1	Compliance; FY07 DOE review	DDO	All BNL organizations	Incremental Need \$555K
Achieve Favorable Outcome from SP/ISM Review	ESSH Excellence	No	Compliance, Laboratory Competitiveness	ISM/Safety Improvement Project Manager	All BNL Organizations	Base Program
Support Institutional Corrective Action Plans	ESSH Excellence	5.2.1		ALD F&O ALD ESHQ	EP, SHSD, QMO	Base Program
Implement Safety Observation Program Level 1,2,3 Managers	ESSH Excellence	5.2.1	Employee, Guest Safety	Lab Director, ALD ESH&Q	All Ops Mgrs	Base Program
Develop, Implement Human Performance Strategy	ESSH Excellence	5.2.1	ISM/Safety Improvement Project WBS 4.1.6	ALD ESHQ	Lab Director, DDS, DDO, ALD ESH&Q	Incremental Need TBD
Environmental Restoration Projects	ESSH Excellence	No		ERP Dir.		Specific DOE Funding
Maintain ISO 14001 Registration and EPA Performance Track Member	ESSH Excellence	5.2.2	DOE O 450.1	ALD ESHQ	All Directorates	Base Program
Achieve OHSAS Registration	ESSH Excellence	5.2.2		PPM Mgr	F&O	Base Program
Emergency Preparedness-Achieve, Sustain Compliance w/ DOE O151.1	ESSH Excellence	8.1	Compliance, DOE	ALD F&O/ OEM Mgr	All BNL Organizations	Base Program
Security Improvements; Protection of Classified, Sensitive Info	ESSH Excellence	8.3 8.4	Compliance, DOE	ALD F&O	All BNL Organizations	Base Program

Activity	Strategic Focus Area	FY07 PEMP Target	Driver	Responsible Manager	Supporting Organizations	Resource Requirements
Receive DOE's Approval of BNL's WSH Programs Required by 10CFR 851	ESSH Excellence		Compliance with New Regulation – 10CFR851	ALD, ESHQ		Incremental need
Cyber Security	ESH Excellence	8.2	Obtain/Maintain Authority to Operate	DDO	All BNL Organizations	Base Program
NLIC	Stakeholder Outreach	No	Customer Relations	DDO	DDO	Base Program
EFCOG	Stakeholder Outreach	No	Customer Relations	DDO	DDO	Base Program

\* This plan contains many actions for operations organizations; see Appendix C

### 3.0 Potential Management & Operating Contract Competition

The DOE is expected to make its “Extend-Compete” decision for BNL in the second quarter of FY07 (Jan-Feb). If a decision is made to compete the contract with a new contract start date of January 2008, it is likely that the DDO, ALD, F&O and ALD, ESH&Q will be heavily involved through the end of FY07 in helping to develop a BSA proposal to continue as the M&O contractor for BNL. The extent of the time commitment of the senior managers may dictate temporary assignments of other Operations managers to cover some of these senior responsibilities. The BSA contract expires in January 2008, so the transition period, if applicable, would not occur until the second quarter of FY08.





## 4.0 Operations-Level Activities

These activities are primarily continuous improvement actions, and are typically developed based on integrated assessment program feedback and organizational retreats. They do not have visibility at the institutional level, though they may require the participation and support of Laboratory organizations outside of the operations organization.

### Operations Activities

Operations Activity	PEMP Target	Driver	Responsible Manager	Supporting Organizations	Resource Requirements
Procurement Internship	No	Succession Planning	PPM Manager	HR, Diversity	Incremental Need \$100K
Strategic Staffing: Procurement Sr Contracts Specialist Hire	No	Succession Planning	PPM Manager	HR, Diversity	Incremental Need \$150K
eProcurement/ Supply Chain Mgmt eProcurement Blanket Orders	No	Efficiency	PPM Manager	BSD	Base Program
Property Write-Offs & Non-accountable Materials	No	Efficiency	PPM Manager	SE	Base Program
Safety Performance Improvement	No	Safety	PPM Manager	F&O	Base Program
Oracle/PeopleSoft Contract Management Module	No	Efficiency	PPM Manager	BSD	Base Program
Major BNL Procurements	No	EM Project	PPM Manager	ER	Base Program
Develop Nano-Fabrication Capability Plan	No	Need to Support Nanoscience Fabrication	ALD, F&O/SC Mgr	CFN	Plan: Base Program Additional Equip: TBD
Develop and Communicate Deferred Maintenance Priorities	Yes	DOE Mandate	ALD F&O/ EP Mgr	Budget Office	Base Program
Revise Standard Contract Documents to Facilitate Recycling	No	Environmental Stewardship	ALD, F&O	EP, PPM	Base Program
CoGeneration/ Chilled Water Investigation	No	Efficiency	ALD, F&O/EP Mgr	None	Base Program

Operations Activity	PEMP Target	Driver	Responsible Manager	Supporting Organizations	Resource Requirements
Metals Security Assessments	No	Compliance	ALD, F&O/SE Mgr	All BNL Organizations	Base program
Reduce Impact of Legacy Activities of the Laboratory	Yes	Compliance	ALD, ESH&Q	EP, ESWMD	Base Program
Unneeded Materials & Chemicals Disposal	No	DOE Mandate	ALD, ESH&Q	PE, ESWMD, All Lab Organizations	Incremental Need TBD
Continue Reduction of the Non-programmatic Hazard Profile	Yes	DOE O 435	DDO ALD, ESHQ	DDO, RCD Mgr	Incremental Need \$200K
Nanoparticle Safety Protocol	No	Worker Safety	ALD, ESH&Q	CFN, SHSD, EP, EWMSD	Base Program
Improve Nuclear Safety Program	No	10CFR830 Subpart B, DOE Std-1027	ALD, ESHQ	DDO, EWMSD Mgr, SHSD Mgr, RCD Mgr	Incremental Need TBD
BMRR to ER Program	No	Compliance Efficiency	ALD, ESH&Q	EP, ERD	Base Program
Pollution Prevention Program	Yes	DOE O 450.1, RCRA, ISO 14001	EWMSD Mgr	All line Organizations	Incremental Need \$50K
Provide Operations Risk Reports to DDO	No	Corporate Assurance Process	QMO Manager	All Operations Managers	Base Program
Provide the DDO with a Process for Quarterly Status on the Operations Annual Plan by Division/Organization/SFA	No	DDO	QMO Manager	All Operations Managers	Base Program
Coordinate/Conduct Annual Review of MS for DDO	No	DDO	QMO Manager	MS Stewards, POCs	Base Program
Provide Status of ESH&Q Organizational Self-Assessment Plans to ALD-ESH&Q	No	ALD ESH&Q	QMO Mgr	All ESH&Q Mgrs	Base Program
Provide Six Sigma Overview for DDO Management Team	No	DDO	QMO Manager		Base Program
IH Monitoring Plan	No	Compliance with 10CFR851	SHSD Mgr		Incremental Need

Operations Activity	PEMP Target	Driver	Responsible Manager	Supporting Organizations	Resource Requirements
Electrical Safety Project	No	Compliance with 10CFR851	SHSD Mgr		Incremental Need
Begin Flexible Radiation Exposure Badging	No	Efficiency	RCD Mgr	Line Organizations	Base Program
Design/Deploy Tracking & Trending Software	No	Efficiency	RCD Mgr		Base Program
Publish Stand-Alone MC&A Plan	No	Compliance	RCD Mgr		Base Program
ISMS Effectiveness Declaration	No	ISMS	ALD, ESH&Q	ISMS/Safety Improvement Project Mgr	Base Program
Develop Protocols for Communicating with DOE HQ	No	Relationship Management	ALD, ESH&Q		Base Program





## 5.0 Management System Activities

These activities are performed by the Operations organization managers who are management system stewards and points of contact. They involve development, consolidation, and modification of management system descriptions, program description, subject areas, and other SBMS documents.

Management System Activity	Management System(s)	Responsible Steward	Responsible Manager	Resource Requirements
Complete Requirements Mgt Activities	All Operations MS (17)	DDO, ALD F&O, ALD ESH&Q	All Operations MS Stewards and POCs	Base Program
ES&H MS Consolidation	Various ES&H MS into ISM Management System	ALD, ESH&Q	SHSD Mgr	Base Program
Complete SBMS Content Development	SBMS	DDO, ALD F&O, ALD ESH&Q	Applicable MS Stewards and POCs	Base Program
Annual MSD Review	All Operations MS	All Operations Stewards	All Operations POCs	Base Program
Roll-up MS Responsibilities	All Operations MS	All Operations Stewards	All Operations POCs	Base Program
Minor Revision to QMS, QAP	Quality Management	ALD ESH&Q	QMO Mgr	Base Program
Revise Requirements Management SA	SBMS	ALD ESH&Q	SBMS Mgr	Base Program
Subject Area Development: Use of FRA/JRA in WP&C	Work Planning & Control	DDO	POC	Base Program
New Management System and Subject Area Development	Project Management MS and EVMS Subject Area	ALD, F&O	PE Mgr	Funding Provided as Part of Earned Value MS Project
Revise Integrated Assessment SA	Integrated Assessment	ALD ESH&Q	QMO Mgr	Base Program
Maintain 5 SBMS Procedures	Radiological Control	ALD ESH&Q	RCD Mgr	Base Program
Author, Publish 2 Technical Bases	Radiological Control	ALD ESH&Q	RCD Mgr	Base Program
Revise RW1 Study Guide	Radiological Control	ALD ESH&Q	RCD Mgr	Base Program



## 6.0 FY 2007 Integrated Assessment Plan

### 6.1 General

The integrated assessment program for any given year is comprised of three principal elements, ***ongoing performance monitoring, external assessments, and targeted self-assessments***.

**Ongoing Performance Monitoring** of recurring performance is used to assure that functions that have reached a level of excellence are sustaining that level. This category includes those parameters that are monitored to ensure key risks are effectively managed, as part of the BSA corporate assurance process. These parameters are typically reported quarterly to the DDO and BSA Operations Risk Committee.

**External assessments** include all those that are planned and conducted by staff external to the Operations Organization and include:

- DOE HQ reviews
- DOE Inspector General reviews and investigations
- BHSO assessments and reviews
- BSA Board assessments and monitoring associated with the corporate assurance process
- Internal Audit audits and reviews
- Independent Oversight reviews
- Laboratory Director reviews
- Management System Self Assessments (by Stewards outside of Operations)
- Senior Management Reviews
- Third Party audits (e.g. ISO 14001, OHSAS 18001, regulators)
- Peer Reviews

**Targeted Self Assessments** are those reviews that are initiated by the DDO, ALDs or other operations organization managers. They may be conducted by operations staff, or other BNL staff, consultants, or peer groups. These include:

- Peer reviews
- DDO reviews of Division, Office or Project operations
- Division self assessments conducted as part of their self assessment plans
- Work observations and Tier I inspections

## 6.2 FY 2007 Ongoing Performance Monitoring

Parameter	BSA Assurance Metric	PEMP Target	Annual Lab Plan	Operations Objective	Owning Organization
TRC, DART	•	•			ALD, ESH&Q
# Safety Observations Performed <sup>1</sup>		•	•	•	ALD, ESHQ
ISO/OHSAS Objectives		•	•	•	ALD, ESHQ
Assessments Completed vs Assessments Planned				•	All Operations Managers
ATS Actions Closed w/o Extension				•	All Operations Managers
New ATS Actions Open				•	All Operations Managers
ATS Items Overdue				•	All Operations Managers
Training				•	All Operations Managers
Reliable Electrical and Building Infrastructure		•		•	ALD F&O
Lab Maintenance Investment Index	•	•		•	ALD F&O
Project Management	•	•		•	ALD F&O
Construction Safety Inspection	•	•		•	ALD F&O
Asset Condition Index	•	•		•	ALD F&O
Building and Facility Reliability	•			•	ALD F&O

Parameter	BSA Assurance Metric	PEMP Target	Annual Lab Plan	Operations Objective	Owning Organization
Electrical System Reliability	•			•	ALD F&O
Security Alarm System Performance	•			•	ALD F&O
Security Forces Response Time	•			•	ALD F&O
Fire Alarm System Performance	•			•	ALD F&O
Fire Rescue Response Time	•			•	ALD F&O
Emergency Mgt Events Reported and Mitigated		•		•	ALD F&O
Security Incidents/MC&A	•			•	ALD F&O
MS Performance				•	MS Stewards, POCs
OHSAS Project Status <sup>1</sup>				•	ALD ESH&Q, SHSD Mgr

*Note: Frequency of monitoring is quarterly unless noted.*

<sup>1</sup> *This parameter is reviewed monthly.*



### 6.3 External Assessments

Performed by	Subject	Organization(s) to be reviewed	Operations Lead	Schedule (in FY07)
DOE- HQ – HS 64	Integrated Safety Management	All BNL Organizations	DDO	Expected 4 <sup>th</sup> Qtr
DOE – HQ NA 40 and HS-63	Emergency Management	All BNL Organizations	ALD, F&O	Expected 4 <sup>th</sup> Qtr
BSA Operations Committee	BGRR, HFBR Risks	ERP	ERP	
Internal Audit	Housing Operations	Staff Services	Mgr, SSD	TBD
DOE-BHSO	QAP Implementation-Design Criterion	Selected Line Organizations	QMO Mgr	3 <sup>rd</sup> Qtr
DOE-BHSO	Criticality Safety		ALD ESH&Q	October 06
DOE-BHSO	Radiation Protection	TBD	RCD Mgr	2 <sup>nd</sup> Qtr
DOE-BHSO	Fire Protection	All BNL Organizations	ALD F&O	February 07
DOE-BHSO	Laser Safety		ALD ESH&Q	January 07
DOE-BHSO	Material Handling	All BNL Organizations	ALD F&O	November 06
DOE-BHSO	Radiation Protection		ALD ESH&Q	March 07
DOE-BHSO	IH Exposure Controls		ALD ESH&Q	April 07
DOE-BHSO	Environmental/RCRA		ALD ESH&Q	July 07
DOE-BHSO	ISM Corrective Action Closure PEMP 5.2.1	All BNL Organizations	DDO	Jun/July 07

Performed by	Subject	Organization(s) to be reviewed	Operations Lead	Schedule (in FY07)
DOE-BHSO	Electrical Safety	All BNL Organizations	ALS F&O	March 07
DOE OEC/DCAA	EVMS Certification	Laboratory	DDO/EP Mgr	3 <sup>rd</sup> Qtr
DOE Chicago	Security Bi-Annual Assessment	Security	SE Mgr	4 <sup>th</sup> Qtr
DOE Chicago/HQ	Emergency Response	OEM	ALD F&O/OER Mgr	4 <sup>th</sup> Qtr
BHSO	Emergency Medical Support Services	OEM/OMC	ALS F&O, OEM Mgr	2 <sup>nd</sup> Qtr
BHSO/OEM	Shelter in Place	Multiple Organizations	ALD F&O/OEM Mgr	2 <sup>nd</sup> Qtr
DOE – HQ/BHSO/BNL OEM	Annual Exercise	Multiple	ALD F&O/OEM Mgr	3 <sup>rd</sup> Qtr
CDC	Biosafety Response	Biology/IH/OMC/OEM/Fire-Rescue/SSD	OEM Mgr	1 <sup>st</sup> Qtr
NSF	EMS/OHSAS Recertification	All BNL Organizations	ALD ESH&Q	3 <sup>rd</sup> Qtr
NSF	OHSAS Phase III	Phase III Organizations	SHSD Mgr	1 <sup>st</sup> Qtr
Senior Management	Site Assessments	TBD	Independent Oversight	1 Assessment per Quarter
Peer Review	MC&A	RCD	DDO	TBD
Peer Review	Maintenance Mgt (Work Order Customer Satisfaction)	EP	ALD F&O/EP Mgr	
Peer Review	Emergency Power Generation Readiness	EP	ALD F&O/EP Mgr	
IO	Con Ops CA Follow-up for WMF, Central Steam Shop, Central; Chilled Water Facility	EP	ALD F&O EWMS Mgr EP Mgr	2 <sup>nd</sup> Qtr

## 6.4 Targeted Self-Assessments

Performed by	Subject	Organization(s) to be reviewed	Operations Lead	Schedule
Peer review	Nuclear Facility Operations	EWMSD, RCD, ERD	DDO	Variable
Peer Review	PE Design Costs	PE/ECS	ALD, F&O	TBD
Peer Review	Potable Water Sampling	EP	EP Mgr	TBD
Peer Review	Tools and Equipment Security	EP	EP Mgr	TBD
Peer Review	PPE Usage	All BNL Organizations	ALD F&O Facility Ops MS POC	TBD
Peer Review	Control of On-site Housing Processes	SS	ALD F&O SS Mgr	TBD
Office of Emergency Management	Programmatic	Multiple (OEM is Primary)	ALD F&O, OEM Mgr	1 <sup>st</sup> Qtr
Office of Emergency Management	Run Cards	Multiple	ALD F&O, OEM Mgr	4 <sup>th</sup> Qtr
QMO	Evaluation of BNL's Contractor Assurance Process (against DOE O 226.1)	TBD	QMO Mgr	2 <sup>nd</sup> Qtr
QMO	Verify Internal Controlled Documents	Selected Line Organizations	QMO Mgr	3 <sup>rd</sup> Qtr
QMO	Event/Issues Management Process	Selected Line Organizations	QMO Mgr	3 <sup>rd</sup> Qtr
Third Party	Extent of Condition of I&C Process	Selected Line Organizations	QMO Mgr	TBD
QMO	Review Calibration Suppliers	N/A	QMO Mgr	2 <sup>nd</sup> Qtr
RCD	Radiological Training		RCD Mgr	1 <sup>st</sup> Qtr

Performed by	Subject	Organization(s) to be reviewed	Operations Lead	Schedule
RCD	Emergency Exposure Situations		RCD Mgr	2 <sup>nd</sup> Qtr
RCD	Instruments & Calibration		RCD Mgr	3 <sup>rd</sup> Qtr
RCD	ALARA Program and Area Radiation Monitoring		RCD Mgr	4 <sup>th</sup> Qtr
RCD	Business Assessment of MC&A Program		RCD Mgr	TBD
RCD	Assess Shielding Policies for BNL Accelerators	C-AD, NSLS, LINAC	RCD Mgr	TBD
EWMSD	ISO 14001 Internal Audit	Selected Line Organizations	EWMSD Mgr	2 <sup>nd</sup> Qtr
EWMSD	Environmental Compliance Multi-Topic Assessment	Selected Line Organizations	EWMSD Mgr	3 <sup>rd</sup> Qtr





# APPENDIX A

## Institutional-Level Activities Dictionary

**Note:** Items are listed in the same order as in the table of Institutional Activities, Section 2.0, page 9.

<b>NSLS II</b>	
<b>Plant Engineering</b>	PE will support the NSLS II Title I design effort including coordination of the project with the BNL Site Master Plan, review of Title I designs, warehouse relocation, utility planning, and construction of new office space for project staff.
<b>Procurement &amp; Property Management</b>	PPM will develop and implement a staffing plan for procurement and property support. Major procurements identified for award in FY07 are: <ul style="list-style-type: none"><li>▪ A-E (\$15M)</li><li>▪ Construction management (\$4.5M)</li><li>▪ Project controls (\$4M)</li><li>▪ Commissioning Agent (\$1.5M)</li></ul>
<b>Environmental &amp; Waste Management Services</b>	Assist BHSO and NSLSII staff with NEPA analysis and secure final Assessment for NSLSII.
<b>Warehouse Relocation</b>	Procurement and Property Management Division will reengineer the shipping, receiving, and warehousing operation and plan for its relocation to new facilities. Plant Engineering will locate new facilities to house the shipping, receiving and warehousing operation and accomplish design of necessary modification to the new facilities.
<b>Provide Support for NSLS II Shielding Design Calculations</b>	NSLS staff is responsible for designing the primary radiation shielding for NSLS 2 to ensure radiation levels in occupied spaces of the building meet design criteria for continuous occupancy, typically less than 0.5 mrem/hr. Advanced shielding codes, such as MCNPX, will be used. RCD will not perform the calculations but will verify the adequacy of the inputs and overall approach used.
<b>Center for Functional Nanomaterials Cd-4a</b>	Plant Engineering staff will continue to provide construction management services for the conventional construction of the CFN. ESH&Q Directorate resources will continue to provide construction safety services, accident investigation, and subcontractor training, ESH&Q staff will conduct the Operational Readiness Evaluation prior to occupancy and Plant Engineering will transition the conventional facilities into the maintenance program.
<b>EBIS Conventional Construction</b>	Plant Engineering will complete design and construction of the conventional facilities for the EBIS project. ESH&Q will provide construction safety services, accident investigation, and subcontractor training, ESH&Q staff will conduct the Operational Readiness Evaluation prior to occupancy and Plant Engineering will transition the conventional facilities into the maintenance program.

<b>Blue Gene Complete Space Renovation; Provide Additional Utility Capacity</b>	Plant Engineering will plan, design, and construct building modifications and utility expansion needed to support the installation and operation of the IBM Blue Gene L computer being provided through New York State.
<b>Pilot Executive Management Course for DDO Management Team</b>	Work with Farmingdale State University (training provider), the DDO and his management team to continue successive classes of the Executive Management class taught by Dr. Alan Robinson. This includes determination of class participants, scheduling of classes, purchasing of books and materials and providing on-site support to Dr. Robinson.
<b>Complete Research Support Building</b>	The RSB is expected to be completed in early FY07. The primary focus will be on the operational readiness review (ORR), preparation of the Facility Use Agreement (FUA), initiation of the preventive maintenance program and moving BNL staff into the facility.
<b>Refine and Execute RSB Consolidation Plan</b>	Consolidation of remaining staff and demolition of vacated buildings will begin late in FY07 and carry over into at least FY08 and possibly FY09.
<b>Laboratory Renovation Obtain CD1, CD2</b>	The DOE-Science laboratories Infrastructure (SLI) program is planning to fund the first year of an \$18M line item to begin aggressive re-capitalization of lab spaces in BNL's permanent science buildings. First year funding is anticipated to cover engineering design. The design will be completed to facilitate bidding out the work in the 1 <sup>st</sup> Qtr of FY08 when construction funds are expected.
<b>Renovate Housing</b>	Continue to work with DOE and other stakeholders to develop a plan for securing alternative or third party financing for housing reconstruction. DOE has issued a draft policy on alternative financing that may provide the BNL Housing Reconstruction Project an opportunity to advance. Plant Engineering will review the economics of this project and continue to work with OEMC and SC to move it forward. In parallel, discussions will be continued with Suffolk County regarding their potential contribution toward a workforce housing project, including BNL's possible participation in the County workforce housing project proposed for Yaphank.
<b>Reduce Maintenance Backlog</b>	Manage the 3PBP process, track and trend maintenance investment, fund deferred maintenance reduction, prioritize deferred maintenance projects and communicate results.
<b>Develop, Implement Strategy for Negotiating the NYPA Contract Renewal</b>	With the expiration of the current NYPA contract occurring July 1, 2008, the activity in FY07 will focus on discussions with NYPA, LIPA, and other NY State entities to achieve agreement that the current NYPA contract will be renewed in FY08, or an alternative arrangement will be put in place to assure continuity of "low cost" electrical power to BNL.

**Develop, Define BNL Project Management System**

**AND**

**Achieve Earned Value Management System (EVMS)**

**Effective Performance Management - Open Identification, Reporting, Analysis, and Timely Disposition of Significant Deviation from Expected Performance**

**Effective Contractor Assurance Process**

**Meet Contract Performance Expectations of >=B+**

**Execute ISM/Safety Improvement Project Plan**

**Achieve Favorable Outcome from SP/ISM Review**

**Support Institutional Corrective Action Plans (i.e., Arc Flash)**

**Implement Safety Observation Program for Level 1, 2, and 3 Managers (known as the STOP Program within F&O)**

**Develop and Implement Human Performance Strategy**

**Environmental Restoration Projects**

A new "Project Management" management system and supporting subject areas is needed to prepare for a DOE review and certification of a Lab-wide EVMS. Issues regarding non-standard project management processes must be resolved. The DOE review is expected in the 2<sup>nd</sup> quarter of FY07.

Implement Redesigned Event/Issues Management Process as articulated in the Training Plan: inform managers of their role, qualify facilitators, educate ORPS Categorizers, and continue to provide training on causal analysis techniques.

Review implementation of selected elements of Contractor Assurance to verify effectiveness. Elements include Event/Issues Management. Review (versus DOE O 226.1 requirements) and revise, as necessary, Quality (Contractor) Assurance Program Description and submit to BHSO for approval.

All PEMP Management & Operating Goals (Goals 4-8) are expected to achieve a B+ or better rating.

The Schedule for this plan is included as Appendix C of this Plan. It is extensive in scope and time critical. (Reference: BNL ISM/Safety Improvement Project Plan, latest edition.)

All organizations are expected to contribute as needed to ensure BNL performs well for this review.

Improve the rigor and formality of the acceptance testing, operational readiness evaluation (ORE), and commissioning processes to ensure that functional and performance specifications identified in DOE directives and BNL standards have been implemented.

Complete the training of Level 1, 2, and 3 managers. Complete the front and back ends for the database for documenting observations. Develop mechanisms for trending observation results and perform causal analysis on trends that indicate opportunities for improvement. During FY07 the work observation process will continue to mature with the primary management emphasis on performing high quality observations and documenting observations routinely.

Develop a plan for initiating the use of Human Performance concepts and tools. Secure senior management support and begin implementation. This will involve the use of a consultant for approximately two years, training of Human Performance SMEs and affected employees, and creating and filling a full time position of Human Performance Expert/Manager for BNL.

Depending upon final negotiation of work scope and fee, complete ER projects for FY 2007. (Remove BGRR pile, HFBR ROD, Complete ROD for g-2 tritium plume.)

**Maintain ISO 14001 Certification and EPA Performance Track Membership**

Pursue EMS goal and objectives and perform EMS assessments as required to support Laboratory.

**Achieve OHSAS Registration**

Complete all preparations for Phase III registration by December 1, 2006 including Job Risk Analyses, internal assessments. Corrective actions, preliminary site visit by the registrar and management reviews. The registrar visit is scheduled for early December 2006. Successful registration for the Phase III organizations will make BNL the first DOE Lab to have achieved OHSAS 18001 registration. Re-verification will be conducted in the 3<sup>rd</sup> quarter of 2007 in conjunction with the ISO 14001 re-verification visit.

**Emergency Preparedness – Achieve, Sustain Compliance with DOE O 151.1C**

Bring BNL into compliance with new DOE order 151.1C.

**Security Improvements and the Protection of Classified and Sensitive Information**

Continuous improvement of security programs to continue to meet or exceed requirements of DOE orders. This will include work related to improving building security in accordance with the physical security survey conducted in conjunction with the Cyber Security Stand-down of October 2006.

**Receive DOE Approval of BNL’s Worker Safety & Health Programs Required by 10CFR 851**

BNL must submit to DOE BHSO a gap analysis that identifies any shortcomings (gaps) in the existing safety and health program. In addition, corrective actions for these gaps must clearly explain how and when BNL will come into compliance. A crosswalk matrix of how BNL’s SH program meets or will meet the existing rules’ requirements is also required. BNL’s WSH Program must receive DOE approval by May 25, 2007.

**Cyber Security Support**

The DDO will provide assistance to the Laboratory Director in guiding the Laboratory’s improvements in cyber security. The DDO will serve as chair of the Cyber Security Response Team and work to integrate the efforts of ITD, Safeguards & Security, Counter Intelligence, and Human Resources to ensure BNL’s systems are secure from both internal and external threats.

**National Laboratories Improvement Council (NLIC)**

The DDO will continue to represent the laboratory on this organization, which is comprised of representatives of all DOE Labs. Meetings are held Bi-monthly at DOE HQ. The group brings consensus laboratory viewpoint to senior DOE managers.

**Energy Facilities Contractors Group (EFCOG)**

The DDO is a member of the Board of Directors and represents BNL on the organization. He is the Sponsoring Director for the Acquisition Management Working Group. EFCOG is a group that provides support to DOE senior managers, and develops products useful to the field through a series of Working Groups. The EFCOG Board meets quarterly in the Washington DC area.

## APPENDIX B

### Operations-Level Activities Dictionary

**Note:** Items are listed in the same order as in the table of Operations Activities, Section 4.0, page 15.

<b>Procurement Internship</b>	PPM will develop and implement an internship program to provide an opportunity to a recent MBA or BA graduate to pursue a career in contracting. The program will be developed in conjunction with the BNL Diversity Office and every effort will be made to ensure effective communication with historically black colleges and universities (HBCUs) about this opportunity.
<b>Strategic Procurement Staffing</b>	In anticipation of future workload and staff losses, as well as the tight labor market in senior federal procurement personnel, PPM will implement the staffing plan developed in FY06, which includes hiring a qualified senior contracts specialist.
<b>eProcurement/Supply Chain Management</b>	PPM will continue to implement eProcurement for additional purchasing activity. Items currently purchased under Plant Engineering Blanket Order contracts will be among the high priority items to be brought into the eProcurement system. PPM will review current blanket orders for automation using eProcurement techniques.
<b>Property Write-Offs and Non-Accountable Materials</b>	While BNL has always had a highly effective property management program for accountable property, there have been property write-offs for lost property including laptop computers, and losses of high-value non-accountable materials such as copper cable and magnet coils. PPM and Safeguards and Security will work together on a project to examine the Lab's policies and procedures in these areas and determine what enhancements are needed.
<b>Safety Performance Improvement</b>	Improve material handling by PPM; merge with F&O ESSH program including increased training and documentation.
<b>Oracle/PeopleSoft Contract Management Module</b>	PPM will work with BSD to implement the contract management module.
<b>Major BNL Procurements</b>	Major procurements identified for award in FY07 in addition to NSLS II are BGRR Bioshield removal (\$13M) and BGRR Stack Removal (\$1.7M). If funding is delayed or DOE is unable to secure approvals, these may slip to FY 08 or 09.
<b>Nano-fabrication Capability Plan</b>	With the hiring of a new CFN Director and the expansion of the continuing nanoscience "jumpstart" program, it is important to revisit the capabilities of the CFSD shops to ensure that the necessary fabrication capability is in place to support nanoscience needs. CFSD management will explore this area with the ALD – BES, the Chair of the Materials Sciences and Condensed Matter Physics Dept, and the new CFN Director.

<b>Develop and Communicate Deferred Maintenance Priorities</b>	Create and implement a plan to communicate how maintenance money is prioritized and spent.
<b>Revise Standard Contract Documents</b>	Increased emphasis in the construction industry is being placed on recycling of building materials when buildings are demolished, design of buildings for economic recycling at the end of their useful life, and specifying the use of recycled materials in new construction or building modification projects. PPM and Plant Engineering will collaborate on a project to evaluate our standard contract documents (general conditions, supplementary general conditions, ECS specifications, etc) to identify and implement opportunities for improvement in supporting recycling of building materials.
<b>Cogeneration/Chilled Water Investigation</b>	The increasing unit price of electric power has improved the return on investment for certain energy projects, including cogeneration. In addition, the Lab's chilled water facility has insufficient capacity to meet the needs of future projects. A proposal has been received from a consortium of Pace Global, Chevron, and the Chickasaw Nation. Plant Engineering will continue to explore a combined cogeneration/chilled water facility using a third party investor.
<b>Metals Security Assessments</b>	Safeguards and Security Division will conduct quarterly inspections/vulnerability analyses of all major metals storage locations to assess security provisions. A report will be issued to the cognizant Department Chair/Division Manager, the responsible ALD, and the DDO.
<b>Reduce Impact of Legacy Activities at the Laboratory</b>	The list of unfunded environmental legacy projects will be evaluated and a plan developed based on the risk associated with each condition. The Plan will include a strategy to seek funding for remediation and will identify short term and ongoing mitigation steps that should be taken to minimize the associated risk.
<b>Un-needed Materials and Chemicals Disposal</b>	In conjunction with the Environmental Legacies Management Plan, all BNL organizations will be requested to develop a plan to remove unneeded materials and chemicals. Reports will be filed with DOE as directed.
<b>Continue Reduction of the Non-programmatic Hazard Profile</b>	(Continue implementation of the Nuclear Materials Disposition Plan). This plan was submitted to BHSO in FY05, and committed the Laboratory to making progress lowering the inventory of nuclear materials and sources without a clearly identified mission need by disposing of or otherwise removing from the site (recycling, reuse, etc.).
<b>Nanoparticle Safety Protocol</b>	ESH&Q staff will continue to work with BES and CFN staff to further develop the nanoparticle safety protocol. Plant Engineering will identify maintenance tasks that will interact with nanoparticles and develop appropriate worker safety procedures and personal protective equipment requirements. Staff will be trained as needed.

<b>Improve Nuclear Safety Program</b>	The ISM assessments at other DOE Laboratories included a close look at compliance with DOE Nuclear Safety regulations and orders. Review of these assessments indicates that BNL would be well served to evaluate nuclear safety programs and related documentation at the WM Facility (a Category III Nuclear Facility) and at other locations where inventory limits may be challenged. Two assessments are planned and corrective action plans must be developed prior to the ISM assessment of BNL.
<b>BMRR to EM</b>	The Director of EM Projects will work with the EM Federal Project Director and BHSO/SC staff to establish a path forward for the D&D of the BMRR.
<b>Pollution Prevention Program</b>	The BNL P2 Program reflects the National and Department of Energy pollution prevention goals and policies and represents an ongoing effort to make pollution prevention and waste minimization and integral part of the BNL operating philosophy. Management and staff commitment to reducing wastes, effluents and emissions to levels which are as low as reasonably achievable ("Environmental ALARA") is central to the success of the Laboratory and achievement of waste reduction goals.
<b>Provide Operations Risk Report to the DDO</b>	Conduct data calls, review input and develop the quarterly Operations Risk Report for the DDO to provide to the BSA Corporate Operations Risk Committee as part of the Laboratory's Assurance process.
<b>Provide the DDO with a Process for a Quarterly Status of this Annual Operations Plan</b>	Develop and implement a method for apprising the DDO of the progress against the activities listed in this Plan. The objective of the process is to enable the DDO to take appropriate action as necessary to assure effective performance of the Operations functions.
<b>Coordinate/Conduct the Annual Review of Management Systems for the DDO</b>	The QMO will work with the DDO to determine the content and scope of this review/report, and create and issue the report to the DDO.
<b>Provide Status of ESH&amp;Q Organizational Self Assessment Plans to the ALD ESH&amp;Q</b>	The QMO will develop a process for gathering information from all areas reporting to the ALD ESH&Q and providing the ALD ESH&Q with a status of progress against this Annual Operations Plan.
<b>Provide Six Sigma Overview for DDO Management Team</b>	The QMO/PPM Quality Rep. will present an overview of the Six Sigma Philosophy and Methodology with an emphasis on applying the concepts to service functions.
<b>Industrial Hygiene Monitoring Plan</b>	Continue progress on performing the IH baseline monitoring. Project plan objectives include obtaining the financial and personnel resources needed to make significant progress on the plan. This is a key activity because of the potential for noncompliance findings against 10CFR851. This is a multi-year project.
<b>Electrical Safety Project</b>	Complete all actions identified in the ISM/Safety Improvement plan including actions identified by the Type B investigation of the C-AD arc flash event.

**Begin Flexible Radiation Exposure Badging**

RCD needs to have a systems analyst complete the software requirements document for the new Personnel Monitoring Dose Database to ensure that subsequent Oracle programming captures all requirements adequately and meets DOE quality criteria. Once all programming on the new dose database has been completed and satisfactorily tested, rollout to the Laboratory (i.e., quarterly badging) will begin.

**Design/Deploy Tracking and Trending Software**

In FY2006 RCD developed an elemental Excel Spreadsheet method for capturing and trending low-level non-compliance information across the Radiological Control Management System to help identify emerging trends of poor performance before they were disclosed as significant events. The next step is to prepare a database requirements document that identifies the products required and level of software quality assurance, and then hire a programmer to create an Access Database in conformance with the database design document.

**Publish Stand Alone M&CA Plan**

As a part of the plan to formally integrate the Isotopes and Special Materials (I&SM) Group into RCD the MC&A Program (MCAP) information needs to be pulled out of the BNL Safeguards & Security Plan (SSP) and written as a stand-alone document, along with individual standard operating procedures (SOPs). The DOE MC&A Orders now require that the MC&A Plan be a separate document (the orders used to allow the MCAP to be part of the SSP). The MCAP was put on hold in FY06 due to several promulgated changes to the DOE MC&A Manual.

**ISMS Effectiveness and Annual Declaration**

The ESH&Q ALD and the ISM/Safety Improvement Project Leader will perform an effectiveness review of BNL's ISMS; and declare areas that are meeting expectations and areas where improvement is needed to be realized in the coming year.

**Develop Protocols for Communicating with DOE HQ**

Develop a communications strategy, protocols and plan for improving and enhancing relationship management with DOE HQ. Primary objectives include regular and frequent contact and discussion on key issues, better understanding of DOE objectives and changing priorities, early notification of new or revised requirements and expectations, and managing perception issues.

## APPENDIX C

### Integrated Safety Management/ Safety Improvement Plan

#### Note

*Percentage completion indicated for the various WBS elements is as of 11/27/06*



# BNL ISM/Safety Improvement Project Plan (ATS# 2944)

ID	WBS	Task Name	% Complete	Actual Start	Baseline Start	Actual Finish	Baseline Finish
1	<b>0</b>	<b>BNL ISM/Safety Improvement Project</b>	<b>56%</b>	<b>Mon 12/12/05</b>	<b>Mon 5/1/06</b>	<b>NA</b>	<b>Tue 8/19/08</b>
2	<b>1.0</b>	<b>Institutional Feedback &amp; Performance Improvement Initiatives</b>	<b>54%</b>	<b>Wed 3/1/06</b>	<b>Mon 5/1/06</b>	<b>NA</b>	<b>Fri 11/2/07</b>
3	<b>1.1</b>	<b>Laboratory Strategy-Focused Framework</b>	<b>74%</b>	<b>Mon 5/1/06</b>	<b>Mon 5/1/06</b>	<b>NA</b>	<b>Wed 4/25/07</b>
4	1.1.1	Complete initial SFA Planning and Performance Management Documents -- Start and Kickoff Parallel Task/Activities	100%	Mon 5/1/06	Mon 5/1/06	Wed 11/15/06	Wed 11/15/06
5	1.1.2	Realign Quarterly Institutional Level Reporting Along SFA Framework	83%	Wed 5/3/06	Mon 10/2/06	NA	Fri 12/29/06
6	1.1.3	Develop and Implement Management Symposia	10%	Tue 8/1/06	Tue 1/2/07	NA	Fri 5/25/07
7	1.1.4	Develop, Publish, and Implement Integrated Planning and Performance Management/Assurance Calendar	100%	Fri 6/2/06	Fri 7/7/06	Fri 9/29/06	Sat 9/30/06
8	<b>1.2</b>	<b>Institutional Decision Making and Assurance Processes</b>	<b>77%</b>	<b>Mon 5/1/06</b>	<b>Mon 5/1/06</b>	<b>NA</b>	<b>Wed 6/20/07</b>
9	1.2.1	Define and Develop SFA Analysis Capability	0%	NA	Thu 4/26/07	NA	Fri 9/28/07
10	1.2.2	Establish Institutional Prioritization Framework	5%	Wed 11/29/06	Wed 11/29/06	NA	Sun 12/31/06
11	1.2.3	Define and Implement a Contractor Assurance Process	100%	Mon 5/1/06	Mon 5/1/06	Fri 9/29/06	Sat 9/30/06
12	1.2.4	Event/Issues Management Processes	100%	Mon 5/1/06	Mon 5/1/06	Fri 10/20/06	Sun 12/31/06
13	1.2.5	Upgrade/Re-Tool the Assessment Tracking System	100%	Mon 5/1/06	Mon 5/1/06	Fri 10/20/06	Wed 2/28/07
14	1.2.6	Establish Common Institutional Level Data Collection and Reporting Process and Tool	37%	Tue 8/15/06	Fri 12/15/06	NA	Fri 3/30/07
15	<b>1.3</b>	<b>Align Resource Allocation Processes</b>	<b>2%</b>	<b>Mon 8/28/06</b>	<b>Mon 9/18/06</b>	<b>NA</b>	<b>Wed 4/4/07</b>
16	1.3.1	Refine and Redefine Institutional Level Discretionary Allocation Processes Description	5%	Mon 8/28/06	Mon 9/18/06	NA	Sun 12/31/06
17	1.3.2	Define and Implement an Organizational Unit Business Planning Process	0%	NA	Tue 1/2/07	NA	Fri 7/27/07
18	1.3.3	Integrate Decision and Budget Allocation Processes into Planning and Performance Management/Assurance Calendar	0%	NA	Tue 1/2/07	NA	Fri 5/25/07
19	<b>1.4</b>	<b>Verify Sustainability &amp; Effectiveness</b>	<b>41%</b>	<b>Wed 3/1/06</b>	<b>Mon 5/1/06</b>	<b>NA</b>	<b>Fri 11/2/07</b>
20	1.4.1	Complete comprehensive gap analysis against key program design input requirements and expectations	100%	Mon 5/15/06	Tue 6/20/06	Wed 7/19/06	Thu 7/20/06
21	1.4.2	Update Re-Engineering Project Plan as necessary to address gaps identified under WBS Activity 1.4.1	100%	Mon 7/17/06	Thu 7/20/06	Thu 8/31/06	Sun 7/30/06
22	1.4.3	Review and update as necessary middle management and staff R2A2s and Performance Plans/Personal Goals to Reflect Strategy Execution and Assurance	22%	Thu 6/8/06	Mon 7/9/07	NA	Fri 9/28/07
23	1.4.4	Complete Analysis of the Adequacy of Institutional Commitment to Independent Oversight (third party review)	100%	Wed 3/1/06	Mon 5/1/06	Fri 8/25/06	Fri 8/25/06
24	1.4.5	Review and Refine as Necessary Roles and Practices of Institutional Councils	100%	Mon 6/19/06	Mon 6/12/06	Wed 8/30/06	Fri 9/29/06
25	1.4.6	Review Organizational Roles, Structure, and Resources and Make necessary changes to optimize effectiveness and efficiency of on-going administration of performance Management Processes	0%	NA	Mon 4/2/07	NA	Fri 6/29/07
26	1.4.7	Review and update as necessary Senior Management R2A2s and performance plans/personal goals to reflect strategy execution and assurance	70%	Mon 7/24/06	Mon 8/7/06	NA	Fri 9/29/06

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ID	WBS	Task Name	% Complete	Actual Start	Baseline Start	Actual Finish	Baseline Finish
27	1.4.8	Conduct an effectiveness review of the performance Management Program re-engineering effort	0%	NA	Mon 6/18/07	NA	Fri 11/2/07
28	1.4.9	Establish and implement a process to verify personnel responsible for managing and performing assurance activities	0%	NA	Mon 8/6/07	NA	Fri 9/28/07
29	1.4.10	Establish minimum requirements for personnel responsible for managing and performing assurance activities (address gap analysis finding "personnel possess appropriate experience, knowledge, skills and abilities"). Include in contractor assurance descript	25%	Tue 10/24/06	Fri 10/13/06	NA	Fri 12/8/06
30	2.0	<b>Work Planning &amp; Control Performance Improvement Initiatives</b>	49%	Wed 3/15/06	Mon 5/1/06	NA	Mon 12/11/06
31	2.1	<b>Work Performance Improvement Initiatives</b>	55%	Wed 3/15/06	Mon 5/1/06	NA	Mon 12/11/06
32	2.1.1	<b>Integrate Work Planning &amp; Control into the Laboratory's Strategic Planning Process</b>	100%	Mon 5/15/06	Mon 5/22/06	Fri 6/9/06	Mon 6/19/06
33	2.1.1.1	Assign a work planning and control representative to the ESS&H SFA Team	100%	Mon 5/15/06	Mon 5/22/06	Fri 5/26/06	Mon 5/29/06
34	2.1.1.2	Incorporate a strong commitment to work planning & control into the SFA goals and objective for the ESS&H SFA	100%	Mon 6/5/06	Fri 6/9/06	Fri 6/9/06	Mon 6/19/06
35	2.1.2	<b>Create a Culture of "All Work is Planned" and Supporting Procedures and Methodologies</b>	28%	Mon 5/15/06	Mon 5/22/06	NA	Thu 11/2/06
36	2.1.2.1	Define and implement a "Worker Planned Work" process (i.e. re-define and enhance skill of the worker determinations hazard-analysis requirements and communication of hazards)	30%	Mon 5/15/06	Mon 5/29/06	NA	Fri 10/20/06
37	2.1.2.2	Evaluate the quality of job risk assessments based on their impact on worker planned work and institutional risk. Revise/update JRA's as	0%	NA	Fri 5/25/07	NA	Fri 9/14/07
38	2.1.2.3	Develop a process to fully integrate Job Risk Analyses and Facility Risk Analyses into the Work Planning & Control Process	30%	Mon 5/15/06	Mon 5/29/06	NA	Fri 10/20/06
39	2.1.2.4	Improve processes for hazards analysis and mitigation where multiple hazards exist and interact; e.g. multi-craft jobs	30%	Thu 6/29/06	Thu 7/20/06	NA	Fri 10/20/06
40	2.1.2.5	Integrate Lessons-Learned data into all Work Planning & Control processes	75%	Tue 6/27/06	Mon 6/26/06	NA	Fri 10/20/06
41	2.1.2.6	Develop requirements for consideration of multiple hazards and their interaction	30%	Thu 6/29/06	Thu 7/27/06	NA	Fri 10/20/06
42	2.1.3	<b>Clarify Building Manager Role in Work Planning &amp; Control</b>	100%	Mon 5/1/06	Mon 5/1/06	Fri 8/11/06	Thu 11/2/06
43	2.1.3.1	Evaluate the data collected from the Bldg Manager work notification pilot and use the results to define the role of the Bldg Manager in WP&C, specifically the required interaction between Bldg Manager & WCM.	100%	Mon 5/1/06	Mon 5/1/06	Fri 8/11/06	Wed 7/12/06
44	2.1.4	<b>Address Gaps in ISM Flow down Processes for Subcontractors and Vendors</b>	98%	Wed 3/15/06	Mon 5/1/06	NA	Thu 11/2/06
45	2.1.4.1	Supplement existing ISM requirements flow-down procurement processes to include small contracts, service work, and warranty work where actual work is performed on site	100%	Wed 3/15/06	Mon 5/1/06	Thu 6/8/06	Fri 6/2/06
46	2.1.4.2	Modify contract, purchase order, and other procurement terms and conditions	100%	Mon 5/15/06	Mon 6/5/06	Fri 7/7/06	Mon 6/19/06
47	2.1.4.3	Integrate review and approval of web requisitions by WCMs and/or Coordinators where work is to be performed on-site. Provide training on the new process and implement/go live	95%	Mon 5/15/06	Tue 6/20/06	NA	Thu 7/20/06
48	2.1.5	<b>Work Planning Processes for Job Change Control</b>	100%	Mon 5/15/06	Mon 5/29/06	Fri 11/24/06	Thu 11/2/06

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ID	WBS	Task Name	% Complete	Actual Start	Baseline Start	Actual Finish	Baseline Finish
49	2.1.5.1	Develop procedures for addressing "scope creep" or changes in the work after the completion of initial planning	100%	Mon 5/15/06	Mon 5/29/06	Fri 11/24/06	Wed 7/26/06
50	2.1.5.2	Conduct workshops/training with Work Control Managers/Coordinators and workers to communicate job change control process and institutional expectations	100%	Thu 11/2/06	Tue 1/2/07	Fri 11/24/06	Fri 2/16/07
51	<b>2.1.6</b>	<b>Upgrade Work Planning &amp; Control Management System Assessment Plan</b>	<b>6%</b>	<b>Mon 5/15/06</b>	<b>Fri 11/3/06</b>	<b>NA</b>	<b>Mon 12/11/06</b>
52	2.1.6.1	Define success factors for the WP&C Management System	0%	NA	Fri 11/3/06	NA	Thu 11/9/06
53	2.1.6.2	Define the risks associated with the management system	0%	NA	Fri 11/3/06	NA	Thu 11/9/06
54	2.1.6.3	Identify quantitative measures to track and report management system performance	0%	NA	Fri 11/10/06	NA	Mon 11/27/06
55	2.1.6.4	Incorporate measures into quarterly reporting of management system status as part of Contractor and Corporate Assurance	20%	Mon 5/15/06	Tue 11/28/06	NA	Mon 12/11/06
56	2.1.6.5	Formalize the role of WCMS quarterly feedback session in management system assessment and improvement planning	5%	Mon 5/15/06	Fri 11/17/06	NA	Mon 11/27/06
57	2.1.6.6	Update the WP&C Assessment Tool	0%	NA	Tue 11/28/06	NA	Mon 12/4/06
58	<b>2.1.7</b>	<b>Integrate Human Performance Factors Principles into the Work Planning and Control Management System</b>	<b>33%</b>	<b>Fri 7/21/06</b>	<b>Thu 7/27/06</b>	<b>NA</b>	<b>Thu 11/2/06</b>
59	2.1.7.1	Integrate the "Four Key Questions" into the Pre-Job briefing process	90%	Fri 7/21/06	Thu 7/27/06	NA	Wed 8/30/06
60	2.1.7.2	Develop an approach to include error precursors in the hazards analysis process	5%	Mon 7/24/06	Thu 7/27/06	NA	Wed 8/30/06
61	2.1.7.3	Develop and provide longer term recommendations for a more comprehensive integration process to the MS Steward	5%	Thu 10/26/06	Thu 8/31/06	NA	Thu 10/5/06
62	<b>2.2</b>	<b>Work Planning and Control Qualification/Training</b>	<b>37%</b>	<b>Mon 5/1/06</b>	<b>Mon 5/1/06</b>	<b>NA</b>	<b>Fri 11/17/06</b>
63	<b>2.2.1</b>	<b>Upgrade Work Control Manager and Coordinator Training &amp; Qualifications</b>	<b>59%</b>	<b>Mon 5/1/06</b>	<b>Mon 5/1/06</b>	<b>NA</b>	<b>Thu 11/2/06</b>
64	2.2.1.1	Review Current training & qualifications requirements for Work Control Managers and Work Control Coordinators	100%	Mon 5/1/06	Mon 5/1/06	Mon 6/12/06	Mon 6/12/06
65	2.2.1.2	Revise Existing training and add new requirements as appropriate	60%	Mon 5/15/06	Tue 6/13/06	NA	Thu 8/10/06
66	2.2.1.3	Develop a schedule for re-qualifying Work Control Managers and Coordinators through training & testing	5%	Fri 10/27/06	Fri 8/11/06	NA	Fri 9/8/06
67	2.2.1.4	Update the Work Planning & Control Management System and Subject Areas, and Job Training Assessment (JTA) as applicable	50%	Wed 11/1/06	Tue 10/17/06	NA	Thu 11/2/06
68	<b>2.2.2</b>	<b>Revitalize the Training Program for Work Control Managers &amp; Work Control Coordinators</b>	<b>15%</b>	<b>Mon 9/11/06</b>	<b>Fri 8/11/06</b>	<b>NA</b>	<b>Fri 11/17/06</b>
69	2.2.2.1	Develop a classroom training curriculum that offers scenario-based, or "case study" training	25%	Mon 10/2/06	Fri 8/11/06	NA	Fri 9/15/06
70	2.2.2.2	Add to or enhance the following elements of the training program (screening work, preparing work permits, performing job hazard analyses, job walk-down and job review, pre and post-job briefing, & soliciting worker feedback	20%	Mon 10/2/06	Fri 8/18/06	NA	Fri 9/15/06
71	2.2.2.3	Upgrade the computer (web) based training to incorporate case studies	15%	Mon 9/11/06	Mon 9/18/06	NA	Fri 10/27/06

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ID	WBS	Task Name	% Complete	Actual Start	Baseline Start	Actual Finish	Baseline Finish
72	2.2.2.4	Institute learning validation through testing	0%	NA	Mon 10/30/06	NA	Fri 11/17/06
73	2.2.2.5	Incorporate training program changes into the Work Planning & Control Management System Description and Subject Areas as applicable	0%	NA	Fri 10/27/06	NA	Thu 11/2/06
74	2.2.2.6	Incorporate all changes resulting from corrective actions in this plan in the revised WCM/WCC training/re-training as applicable	0%	NA	Fri 10/27/06	NA	Fri 11/3/06
75	2.3	WP&C Management System and Subject Area Revisions/Updates. Includes the process for worker planned work, clarify the role of building managers, flowdown to subcontractors, training, job change control and human performance principles	20%	Fri 7/28/06	Mon 11/6/06	NA	Fri 12/29/06
76	3.0	<b>Documentation Improvement Initiatives</b>	43%	Mon 12/12/05	Mon 5/1/06	NA	Tue 8/5/08
77	3.1	<b>Key Programmatic Document Initiatives</b>	53%	Wed 2/1/06	Mon 5/1/06	NA	Fri 1/12/07
78	3.1.1	<b>Consolidate three ISM Related Management Systems; Upgrade Program Description</b>	24%	Mon 5/1/06	Mon 5/1/06	NA	Fri 1/12/07
79	3.1.1.1	Consolidate ISM Related Management Systems; Upgrade ISM Program Description	30%	Mon 5/1/06	Mon 5/1/06	NA	Thu 11/16/06
80	3.1.1.2	Designate a single point of contact for the new management system	0%	NA	Fri 11/17/06	NA	Mon 11/27/06
81	3.1.1.3	Develop a presentation to actively communicate the significant changes resulting from this consolidation	0%	NA	Tue 11/28/06	NA	Fri 1/12/07
82	3.1.2	Incorporate Annual ISM Documentation Review into Lab Planning & Assessment	100%	Mon 9/25/06	Mon 9/25/06	Sat 9/30/06	Sat 9/30/06
83	3.1.3	<b>Correct specific Procedure Deficiencies from Evaluation of ISM Assessment</b>	100%	Wed 2/1/06	Mon 5/1/06	Fri 8/25/06	Wed 8/30/06
84	3.1.3.1	Review Evaluation of ISM Report and capture all references to documentation/procedure deficiencies	100%	Wed 2/1/06	Mon 5/1/06	Fri 5/5/06	Mon 8/7/06
85	3.1.3.2	Distribute deficiencies to appropriate management system stewards for correction	100%	Mon 2/20/06	Tue 8/8/06	Fri 6/2/06	Wed 8/16/06
86	3.1.3.3	Submit Notice of Intent (NOI) to the SBMS Office for incorporation into the SBMS Completion Project	100%	Fri 6/30/06	Thu 8/17/06	Fri 8/25/06	Thu 8/31/06
87	3.1.4	<b>Realign Management System Steward Reporting Structure</b>	100%	Mon 5/1/06	Mon 5/1/06	Fri 7/28/06	Tue 8/1/06
88	3.1.4.1	Revise appropriate SBMS documentation to reflect new reporting relationship	100%	Mon 5/1/06	Mon 5/1/06	Fri 7/28/06	Tue 8/1/06
89	3.1.4.2	Brief Laboratory Director and Deputy Director for Science on their new responsibilities	100%	Fri 7/21/06	Thu 7/27/06	Fri 7/28/06	Fri 7/28/06
90	3.1.4.3	Deliver to the HR Management System Steward/Point of Contact additional R2A2 responsibilities for Lab Director, DDO, DDS and MSS's	100%	Mon 7/24/06	Mon 7/31/06	Fri 7/28/06	Tue 8/1/06
91	3.1.5	<b>Roll- up Roles and Responsibilities to Management System Level; Include Management System Stewards and Points of Contact</b>	51%	Wed 5/3/06	Mon 5/22/06	NA	Wed 11/1/06
92	3.1.5.1	Revise SBMS Document guidelines to incorporate a requirement that all roles and responsibilities in any management system documents be summarized in the management system description	100%	Wed 5/3/06	Fri 9/29/06	Fri 9/1/06	Thu 10/26/06
93	3.1.5.2	Search all SBMS documents to identify all such roles and responsibilities	65%	Thu 6/1/06	Mon 5/22/06	NA	Wed 8/2/06
94	3.1.5.3	Update management system descriptions as appropriate	14%	Wed 7/5/06	Mon 8/7/06	NA	Fri 8/25/06
95	3.1.5.4	Summarize management system responsibilities by position	64%	Thu 6/1/06	Mon 8/28/06	NA	Thu 9/28/06

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ID	WBS	Task Name	% Complete	Actual Start	Baseline Start	Actual Finish	Baseline Finish
96	3.1.5.5	Deliver to the Human Resources Management System Steward/POC for incorporation of responsibilities in MSS and Point of Contact R2A2s	25%	Fri 8/11/06	Fri 9/29/06	NA	Wed 11/1/06
97	<b>3.2</b>	<b>Requirements Management Implementation</b>	<b>38%</b>	<b>Mon 12/12/05</b>	<b>Mon 5/1/06</b>	<b>NA</b>	<b>Fri 8/15/08</b>
98	<b>3.2.1</b>	<b>Complete the SBMS Requirements Verification</b>	<b>37%</b>	<b>Mon 12/12/05</b>	<b>Mon 5/1/06</b>	<b>NA</b>	<b>Fri 8/15/08</b>
99	<b>3.2.1.1</b>	<b>Develop software tools to facilitate and document the requirements management process requirements management</b>	<b>60%</b>	<b>Mon 12/12/05</b>	<b>Mon 5/1/06</b>	<b>NA</b>	<b>Mon 1/22/07</b>
100	3.2.1.2	Pilot the requirements management process and prepare guidelines for management system stewards	30%	Mon 5/1/06	Mon 5/1/06	NA	Tue 5/1/07
101	3.2.1.3	Bin management systems into four phases based on institutional risk impact	100%	Mon 5/15/06	Wed 5/2/07	Fri 5/4/07	Tue 10/16/07
102	3.2.1.4	Train management system stewards in the requirements management tools and processes	100%	Fri 5/4/07	Wed 10/17/07	Fri 6/15/07	Tue 11/27/07
103	3.2.1.5	Execute the requirements process in phases based on the binning activity	21%	Mon 5/15/06	Wed 10/17/07	NA	Tue 5/27/08
104	3.2.1.6	Publish revised SBMS Documents as applicable	0%	NA	Wed 5/28/08	NA	Fri 8/15/08
105	<b>3.2.2</b>	<b>Re-baseline and Finish the SBMS Completion Project</b>	<b>41%</b>	<b>Fri 5/26/06</b>	<b>Thu 6/1/06</b>	<b>NA</b>	<b>Sat 12/30/06</b>
106	3.2.2.1	Update the SBMS Completion Project Scope, responsibilities, and schedules	100%	Fri 5/26/06	Thu 6/1/06	Thu 7/27/06	Fri 8/18/06
107	3.2.2.2	Secure commitment of contributed and/or incremental resources	100%	Fri 5/26/06	Tue 8/22/06	Tue 7/11/06	Fri 10/20/06
108	3.2.2.3	Implement the SBMS Completion Project in accordance with the approved plan	0%	NA	Mon 8/21/06	NA	Sat 12/30/06
109	<b>4.0</b>	<b>Communication &amp; Involvement Initiatives</b>	<b>63%</b>	<b>Wed 3/1/06</b>	<b>Mon 5/1/06</b>	<b>NA</b>	<b>Mon 1/8/07</b>
110	<b>4.1</b>	<b>New / Revised Document Communications</b>	<b>63%</b>	<b>Wed 3/1/06</b>	<b>Mon 5/1/06</b>	<b>NA</b>	<b>Mon 1/8/07</b>
111	4.1.1	Communicate Revisions and Work Control Requirements	0%	NA	Wed 12/6/06	NA	Mon 1/8/07
112	4.1.2	ISM Web Based Training and Laboratory Communications	100%	Wed 3/1/06	Mon 5/1/06	Fri 8/18/06	Mon 8/28/06
113	<b>4.1.3</b>	<b>Operations Forum Evaluation / Implementation</b>	<b>76%</b>	<b>Wed 3/1/06</b>	<b>Wed 6/28/06</b>	<b>NA</b>	<b>Thu 2/15/07</b>
114	4.1.4	Worker Safety and Health / ISM Consolidated Management System	5%	Tue 8/1/06	Mon 11/6/06	NA	Tue 12/5/06
115	4.1.5	Barrier Analysis & Five Whys Causal Analyses workshops	50%	Mon 7/31/06	Tue 8/1/06	NA	Fri 12/29/06
116	4.1.6	Human Performance Strategy Development & Implementation	30%	Mon 8/21/06	Mon 8/28/06	NA	Fri 10/27/06
117	<b>5.0</b>	<b>Collider Accelerator Arc Flash Type B Incident</b>	<b>63%</b>	<b>Mon 5/1/06</b>	<b>Mon 5/1/06</b>	<b>NA</b>	<b>Mon 4/30/07</b>
118	<b>5.1</b>	<b>DOE Type B Team Interim Recommendations</b>	<b>64%</b>	<b>Mon 5/1/06</b>	<b>Mon 5/1/06</b>	<b>NA</b>	<b>Mon 4/30/07</b>
119	<b>5.1.1</b>	<b>Doe Team Interim Recommendation #1 -- Dress for Hazard Category for 480v circuit breaker and switch operation. Interim action to remain in place until Laboratory actions are completed.</b>	<b>100%</b>	<b>Mon 5/1/06</b>	<b>Mon 5/1/06</b>	<b>Mon 7/24/06</b>	<b>Thu 9/28/06</b>
120	5.1.1.1	Lab Action #1 Review the NFPA 70E standards and review their adequacy for personal protective equipment	100%	Mon 5/1/06	Mon 5/1/06	Fri 7/7/06	Thu 9/7/06
121	5.1.1.2	Lab action #2 Upgrade the Laboratory Electrical Safety Standards to better address arc flash personal protective equipment	100%	Mon 5/1/06	Mon 5/1/06	Fri 7/21/06	Thu 9/7/06
122	5.1.1.3	Publish upgraded standard in SBMS or local procedures as appropriate	100%	Fri 7/7/06	Fri 9/8/06	Mon 7/24/06	Thu 9/28/06

## BNL ISM/Safety Improvement Project Plan (ATS# 2944)

ID	WBS	Task Name	% Complete	Actual Start	Baseline Start	Actual Finish	Baseline Finish
123	5.1.2	<b>DOE Team Interim Recommendation #2 -- Review the practice of racking circuit breakers with bus energized or inserting/removing MCC starter buckets while MCC is energized</b>	53%	Mon 5/1/06	Mon 5/1/06	NA	Fri 7/28/06
124	5.1.2.1	Lab Action #1 Review current procedures to evaluate whether the practice of racking circuit breakers into live bus should be continued	100%	Mon 5/1/06	Mon 5/1/06	Mon 7/24/06	Fri 6/16/06
125	5.1.2.2	Lab Action #2 Benchmark practices for MCC bucket insertion/removal with other Laboratory Electrical Safety Standards	100%	Mon 5/22/06	Mon 6/5/06	Mon 7/24/06	Fri 6/16/06
126	5.1.2.3	Lab Action #3 Modify lab procedures and publish in SBMS and/or local procedures to include requirements for Live bus operations	0%	NA	Fri 9/1/06	NA	Fri 12/1/06
127	5.1.2.4	Lab Action #4 Train/Communicate Laboratory electrical workers in the updated procedures	0%	NA	Fri 12/1/06	NA	Fri 12/22/06
128	5.1.3	<b>DOE Team Interim Recommendation #3 -- Activate/Install ground fault detection systems</b>	13%	Mon 7/24/06	Mon 5/1/06	NA	Mon 4/30/07
129	5.1.3.1	Lab Action #1 Review the status of ground fault indicating relays to verify that they are appropriately set and connected to an alarm monitoring system	100%	Mon 7/24/06	Mon 5/1/06	Fri 8/25/06	Thu 9/21/06
130	5.1.3.2	Lab Action #2 Install/correct/connect relays as needed	40%	Mon 7/24/06	Fri 9/22/06	NA	Tue 3/13/07
131	5.1.3.3	Lab Action #3 Develop/Review procedures for responding to ground fault conditions	0%	NA	Fri 9/22/06	NA	Thu 10/19/06
132	5.1.3.4	Lab Action #4 Modify the Laboratory Electrical Safety Standards, if applicable	0%	NA	Wed 3/14/07	NA	Mon 4/30/07
133	5.1.3.5	Train the Laboratory's electrical workers in updated procedures	0%	NA	Tue 4/24/07	NA	Fri 6/8/07
134	5.1.4	<b>DOE Team Interim Recommendation #4 -- Install systems to minimize voltage transients on undergrounded (floating delta) systems</b>	83%	Mon 5/1/06	Mon 5/1/06	NA	Thu 9/7/06
135	5.1.4.1	Lab Action #1 Conduct further electrical and mechanical forensic analysis to confirm the DOE Team's theory of what caused the arc flash event	100%	Mon 5/1/06	Mon 5/1/06	Wed 7/12/06	Fri 6/2/06
136	5.1.4.2	Lab Action #2 Design protection systems based on a full understanding of the technical cause	100%	Thu 7/6/06	Mon 6/5/06	Wed 7/26/06	Fri 6/23/06
137	5.1.4.3	Lab Action #3 Develop a plan for installing systems (a revised completion date for completion of electrical installation will be provided upon plan completion)	75%	Mon 5/1/06	Mon 5/1/06	NA	Thu 9/7/06
138	5.1.5	<b>DOE Team Interim Recommendation #5 -- Develop and implement a project plan for incident energy calculations</b>	70%	Mon 5/1/06	Mon 5/1/06	NA	Wed 7/26/06
139	5.1.5.1	Lab Action #1 Develop a project Plan for remaining calculation of the arc flash's incident energy calculations	100%	Mon 5/1/06	Mon 5/1/06	Mon 7/24/06	Fri 6/23/06
140	5.1.5.2	Lab Action #2 Implement the plan - (A revised completion date for completion of incident calculations will be provided upon completion of the plan)	20%	Fri 7/7/06	Mon 6/26/06	NA	Wed 7/26/06
141	5.1.6	<b>DOE Team Interim Recommendation #6 -- Assure that Personal Protective Equipment Is Worn Properly</b>	100%	Mon 5/1/06	Mon 5/1/06	Fri 11/10/06	Fri 9/29/06
145	5.2	<b>BNL Arc Flash Corrective Actions</b>	62%	Mon 5/8/06	Mon 5/15/06	NA	Mon 11/20/06
146	5.2.1	Human Performance -Based Accident Investigation	100%	Mon 5/8/06	Mon 5/15/06	Tue 5/23/06	Wed 5/31/06
147	5.2.2	Electrical Safety Assessment	40%	Thu 8/31/06	Wed 6/28/06	NA	Mon 11/20/06

## BNL ISM/Safety Improvement Project Plan (ATS# 2944)

ID	WBS	Task Name	% Complete	Actual Start	Baseline Start	Actual Finish	Baseline Finish
148	5.2.3	Electrical Safety Effectiveness Review	100%	Mon 9/11/06	Wed 6/28/06	Tue 1/9/07	Fri 8/25/06
149	5.2.4	Lessons Learned Review	100%	Mon 5/29/06	Mon 8/28/06	Wed 1/10/07	Fri 9/1/06
150	<b>6.0</b>	<b>Ongoing Action Plan Tracking/Follow-Up</b>	<b>62%</b>	<b>Wed 3/1/06</b>	<b>Mon 5/1/06</b>	<b>NA</b>	<b>Fri 12/28/07</b>
151	6.1	OSHA Assessment Action Plan	100%	Mon 5/1/06	Mon 5/1/06	Fri 5/12/06	Fri 7/28/06
152	6.2	Material Handling & Rigging Plan (ATS 1948)	85%	Mon 5/15/06	Mon 3/5/07	NA	Fri 4/27/07
153	6.3	Industrial Hygiene Plan (ATS 2823)	60%	Wed 3/1/06	Wed 5/24/06	NA	Thu 2/15/07
154	6.4	Electrical Safety Action Plan (ATS 2725)	60%	Mon 5/1/06	Mon 6/18/07	NA	Fri 12/28/07
155	6.5	Authority Having Jurisdiction (AHJ) Nationally Recognized Testing Laboratory (NTRL) Action Plan	40%	Mon 5/15/06	Mon 5/14/07	NA	Sun 9/30/07
156	6.6	Inadequate Control of Procedures (ATS 2935)	95%	Wed 3/1/06	Wed 7/12/06	NA	Sun 4/1/07
157	<b>7.0</b>	<b>Evaluation of ISM Recommendations &amp; Improvement Initiatives</b>	<b>72%</b>	<b>Wed 3/1/06</b>	<b>Mon 5/1/06</b>	<b>NA</b>	<b>Tue 2/13/07</b>
158	<b>7.1</b>	<b>Evaluation of ISM Recommendations/Opportunities for Improvement</b>	<b>77%</b>	<b>Wed 3/1/06</b>	<b>Mon 5/1/06</b>	<b>NA</b>	<b>Fri 12/29/06</b>
159	<b>7.1.1</b>	<b>Radiological Protection Plan Revision</b>	<b>100%</b>	<b>Wed 3/1/06</b>	<b>Tue 8/1/06</b>	<b>Mon 9/18/06</b>	<b>Fri 9/29/06</b>
165	<b>7.1.5</b>	<b>Conduct of Operations Evaluation and Implementation</b>	<b>48%</b>	<b>Wed 3/1/06</b>	<b>Mon 5/1/06</b>	<b>NA</b>	<b>Mon 11/6/06</b>
166	7.1.5.1	Facilities & Operations Directorate perform an extent of condition review to determine if conduct of operation noncompliance exists across operational facilities	85%	Mon 5/1/06	Mon 5/1/06	NA	Wed 7/12/06
167	7.1.5.2	Internal Audit and Oversight perform an effectiveness review of all corrective actions for the findings from the August 2003 IO Assessment	0%	NA	Mon 9/4/06	NA	Mon 11/6/06
168	7.1.5.3	Review/Update existing F&O Directorate Conduct of Operations Program	100%	Wed 3/1/06	Thu 7/13/06	Wed 9/20/06	Wed 8/23/06
169	7.1.5.4	Provide awareness training to applicable F&O staff on conduct of operations principles, program revisions, and management expectations	10%	Thu 8/24/06	Thu 8/24/06	NA	Thu 9/21/06
170	<b>7.1.6</b>	<b>Nuclear Safety Authorization / Readiness</b>	<b>78%</b>	<b>Mon 4/3/06</b>	<b>Mon 7/3/06</b>	<b>NA</b>	<b>Wed 11/29/06</b>
171	7.1.6.1	Perform a verification of implementation and compliance with 10CFR830, Subpart B Nuclear Safety Management	100%	Mon 4/3/06	Mon 7/3/06	Fri 7/7/06	Thu 9/28/06
172	7.1.6.2	Perform an assessment of documented safety bases or pertinent exclusions/Exemptions	80%	Mon 8/14/06	Fri 9/29/06	NA	Thu 11/9/06
173	7.1.6.3	Provide Unreviewed Safety Question determination training to managers and staff responsible for nuclear facilities	100%	Thu 7/6/06	Thu 7/6/06	Fri 7/28/06	Mon 7/10/06
174	7.1.6.4	Conduct an external assessment to independently verify Essential Safety System Functionality	20%	Mon 8/7/06	Fri 11/10/06	NA	Wed 11/29/06
175	7.1.6.5	Update the Natural Phenomena Hazard (NPH) Design Document	35%	Mon 7/10/06	Mon 9/11/06	NA	Fri 10/6/06
176	<b>7.1.7</b>	<b>Operating Experience / Lessons Learned Initiatives</b>	<b>56%</b>	<b>Mon 5/15/06</b>	<b>Tue 5/30/06</b>	<b>NA</b>	<b>Fri 12/29/06</b>
177	7.1.7.1	Expand distribution of published lessons learned communications to include Level 1 and Level 2 managers, ES&H Coordinators, WCMs, and Safety & Health Services personnel	100%	Mon 5/15/06	Tue 5/30/06	Wed 5/31/06	Fri 6/16/06
178	7.1.7.2	Commence tracking & trending feedback received on each published Lessons Learned Communication	100%	Mon 6/19/06	Mon 6/26/06	Fri 8/18/06	Wed 8/9/06

## BNL ISM/Safety Improvement Project Plan (ATS# 2944)

ID	WBS	Task Name	% Complete	Actual Start	Baseline Start	Actual Finish	Baseline Finish
179	7.1.7.3	Initiate a Bi-Annual Lessons Learned Coordinators workshop to prompt feedback, evaluate, and improve the BNL LL program	10%	Wed 11/1/06	Wed 12/6/06	NA	Fri 12/29/06
180	7.1.8	<b>Construction Safety Subject Area review/Update</b>	100%	Mon 3/27/06	Mon 6/12/06	Tue 10/17/06	Thu 9/28/06
182	7.2	<b>Worker Safety &amp; Health Program Implementation</b>	54%	Mon 5/1/06	Mon 5/1/06	NA	Tue 2/13/07
183	7.2.1	Worker Safety & Health Rule Implementation	50%	Mon 5/1/06	Mon 5/1/06	NA	Mon 12/4/06
184	7.2.2	Development of Field Validation Criterion	100%	Mon 5/1/06	Mon 5/1/06	Mon 10/16/06	Mon 12/4/06
185	7.2.3	Investigation/Causal Analysis and Corrective Actions	50%	Mon 5/1/06	Mon 5/1/06	NA	Mon 12/4/06
186	7.2.4	Worker Safety & Health Elements in Place & Program Expectations Communicated	0%	NA	Tue 12/5/06	NA	Tue 2/13/07
187	7.3	<b>Safety Improvement Initiatives</b>	82%	Fri 3/31/06	Wed 5/3/06	NA	Fri 12/29/06
188	7.3.1	Excellence in ESS&H Strategic Focus Area	100%	Tue 5/9/06	Tue 5/9/06	Fri 11/17/06	Sat 9/30/06
189	7.3.2	Safety Observation Training for Managers and Supervisors	100%	Tue 5/9/06	Tue 5/9/06	Mon 10/23/06	Thu 11/2/06
190	7.3.3	OHSAS Registration Phase 3 Completion	85%	Fri 3/31/06	Wed 5/3/06	NA	Fri 12/29/06
191	7.3.4	Employee Concerns Program Evaluation	0%	NA	Wed 2/21/07	NA	Wed 2/28/07
192	7.3.5	Executive Management Training Program	35%	Tue 8/1/06	Tue 8/1/06	NA	Mon 1/1/07
193	7.3.6	Electronic Delivery of Experimental Safety Review Forms Evaluation	0%	NA	Tue 1/2/07	NA	Tue 4/10/07
194	7.3.7	Effectiveness of Off-Site Integrated Safety Management	0%	NA	Mon 1/1/07	NA	Thu 3/1/07
195	7.3.8	Institutional Safety Committees Reporting Structure Review	90%	Fri 8/18/06	Mon 8/21/06	NA	Fri 10/27/06
196	7.3.9	Feedback & Improvement, and WP&C Follow-Up Review	100%	Fri 9/15/06	Fri 9/1/06	Fri 10/13/06	Fri 10/27/06
197	8.0	<b>Project Management and Support</b>	39%	Mon 5/1/06	Mon 5/15/06	NA	Tue 8/19/08
198	8.1	Consulting Services & Subject Matter Experts	40%	Mon 5/1/06	Mon 10/2/06	NA	Fri 7/27/07
199	8.2	Administration and ISM Workshops	40%	Mon 5/1/06	Mon 5/15/06	NA	Tue 9/18/07
200	8.3	ISM/Safety Improvement Project Closeout	0%	NA	Wed 8/6/08	NA	Tue 8/19/08

## APPENDIX D

### Operations-Owned PEMP Measures and Targets

PEMP Criteria	PEMP Measure	PEMP Target	Ops Owned	Operations Supported	Operation Owner(s)	Success Metric
2 – Efficient, Effective Design, Fabrication, Construction, and Operation		2.1.2.2 – Obtain CD1, CD2 for Science Lab Renovation Phase 1	No	Yes – F&O	McNerney	Meet milestones
4 – Sound & Competent Leadership & Stewardship	4.1.1 – Integrated Strategy	4.1.1.1 - Managing to the strategic agenda	No	Yes - Ops supports through ESSH and Infrastructure SFAs	Bebon/ Tarpinian	SFA Champions meet P&SP targets
5 – Integrated Safety, Health, and Environmental Protection	5.1.1 – Progress in best in class safety and health performance	5.1.1.1 – DART rate of 0.25	Yes		Tarpinian/ Williams	DART < 0.25
		5.1.1.2 – TRC rate of 0.65	Yes		Tarpinian	TRC < 0.65
	5.2.1 – ISM	5.2.1.1 – Work Planning & Control; verify implementation of Skill of the Worker criteria	Yes		Bebon/ Johnson	ISM CA WBS 2.1.2 completed
		5.2.1.2 – Work Planning & Control; integrate JRAs and HPI principles	Yes		Bebon/ Johnson	ISM CA WBS 2.1.2 completed
		5.2.1.3 – Work Planning & Control; establish training and qualifications for WCMs and WCCs	Yes		Bebon/ Johnson	ISM CA WBS 2.2.1 completed
		5.2.1.4 – Safety observation process for Level 1,2,3 managers	Yes		Tarpinian/ Williams	Training completed; expectations set; benefits demonstrated
		5.2.1.5 – Verify completion of corrective actions in ISM Plan	Yes		Bebon/ Coleman	Independent verification review indicates success

PEMP Criteria	PEMP Measure	PEMP Target	Ops Owned	Operations Supported	Operation Owner(s)	Success Metric
	5.2.2 – ISO & OHSAS Certification	5.2.2.1 – Maintain external certification	Yes		Tarpinian/ Goode, Williams	Registrations maintained
	5.3.1 – Legacy Environmental Projects	5.3.1.1 – Develop strategy to reduce risks of highest priority projects	Yes		Tarpinian/ Goode	Plan developed
		5.3.1.2 – Communicate results to BNL Mgmt; develop plan to communicate to external stakeholders	Yes		Tarpinian/ Goode <b>Note: Will need CEGPA support</b>	Plan developed
	5.3.2 – Nuclear Materials Disposition	5.3.2.1 – Dispose of un-needed Thorium, natural and depleted uranium, and PU 238 in ISM custody; document need for items retained	Yes		Tarpinian/ Schaeffer	Material shipped off site in FY 07
	5.3.3 – Pollution Prevention	5.3.3.1 – Proposal from each directorate	Yes		Tarpinian/ Goode	Proposals submitted
6 – Business Systems & Resources	6.2.1 – Acquisition & Property Management	6.2.1.1 – Procurement Balanced Scorecard self assessment	Yes		Bebon/Healey	BSC Score of B+ or above
		6.2.1.2 – Property Balanced Scorecard self assessment	Yes		Bebon/Healey	BSC Score of B+ or above
	6.3.6 – Diversity	6.3.6.1 – Employee participation in cultural awareness or special emphasis month activities	No	Yes – Ops managers will encourage their staff to participate	Bebon	
	6.3.8 - Diversity	6.3.8.2 – Employee participation in diversity and cultural awareness training	No	Yes – Ops managers will encourage their staff to participate	Bebon	
	6.4.1 – Business Management Systems	6.4.1.2 – Quality Assurance Program Review	Yes		Tarpinian/ Lebel	Assessment Results
7 – Facilities & Infrastructure	7.1.1 – Real Property Assets	7.1.1.1 – Timely approval of 3BP and CURL projects	Yes		McNerney/ Timko	CURL Approved by 12/15/06
	7.1.2 - Maintenance	7.1.2.1 – Infrastructure reliability	Yes		McNerney/ Murphy	> 0. 9998

<b>PEMP Criteria</b>	<b>PEMP Measure</b>	<b>PEMP Target</b>	<b>Ops Owned</b>	<b>Operations Supported</b>	<b>Operation Owner(s)</b>	<b>Success Metric</b>
		7.1.2.2 – MII	Yes		McNerney/ Murphy	2% of RPV or above
		7.1.2.3 – Deferred maintenance target	Yes		McNerney/ Murphy	\$5.9 M
	7.2.1 – Ten Year Site Plan	7.2.1.1 – Align TYSP and 3PBP with Business Plan; study electric power options beyond NYPA	Yes		McNerney/ Murphy	NYPA Intent to Renew
	7.2.2 – Cost and Schedule Performance Index	7.2.2.1 – Project management measure	Yes		McNerney/ Murphy	> 90%
8 – ISSM & Emergency Management	8.1.1 – Lab Mgmt commitment to Emergency Management	8.1.1.1 – Maintenance and utilization of emergency management procedures	Yes		McNerney/ Searing	Self Evaluation
		8.1.1.2 – Events are reported and mitigated	Yes		McNerney/ Searing	Self Evaluation
		8.1.1.3 – External reviews demonstrate management systems are effective	Yes		McNerney/ Searing	Success on NA-AO Review
	8.3.1 – Leadership commitment to safeguards	8.3.1.1 – Integration of safeguards into the culture	Yes		McNerney/ Amabile	Self Evaluation
		8.3.1.2 – Risk identification, prevention, and control	Yes		McNerney/ Amabile	Self Evaluation
	8.3.2 – Safeguards event reporting and mitigation	8.3.2.1 – External reviews, surveys, inspections to demonstrate safeguards effectiveness	Yes		McNerney/ Amabile	Self Evaluation/ DOE Review results
		8.3.2.2 – Employee and management awareness of safeguards	Yes		McNerney/ Amabile	ISSM implementation
	8.4.1 – Leadership commitment to protection of classified and sensitive information	8.4.1.1 – Events involving protection of classified or sensitive information are reported and mitigated	Yes		McNerney/ Amabile	No Events/ Incidents
		8.4.1.2 – Effective security system	Yes		McNerney/ Amabile	No Events/ Incidents



## APPENDIX E

### FY 2007 PEMP (Goals 4–8)

#### Note

*The following pages are taken from Appendix B of the DOE/BSA contract.*



**Goal 4.0 Provide Sound and Competent Leadership and Stewardship of the Laboratory - THE CONTRACTOR'S LEADERSHIP PROVIDES EFFECTIVE AND EFFICIENT DIRECTION IN STRATEGIC PLANNING TO MEET THE MISSION AND VISION OF THE OVERALL LABORATORY; IS ACCOUNTABLE AND RESPONSIVE TO SPECIFIC ISSUES AND NEEDS WHEN REQUIRED; AND CORPORATE OFFICE LEADERSHIP PROVIDES APPROPRIATE LEVELS OF RESOURCES AND SUPPORT FOR THE OVERALL SUCCESS OF THE LABORATORY.**

The weight of this Goal is 25%.

**Objective 4.1 - Provide a Distinctive Vision for the Laboratory and an Effective Plan for Accomplishment of the Vision to Include Strong Partnerships Required to Carry Out those Plans.**

The weight of this Objective is 30%.

**Measure 4.1.1**

BSA will deliver and implement effective integrated strategy to sustain the viability of BNL as a leading scientific institution into the foreseeable future.

**Target 4.1.1.1**

BSA will demonstrate that it is managing to the strategic agenda of the laboratory through management actions and plans (e.g., Strategic Research Partnerships, Annual Laboratory Plan).

**Target 4.1.1.2**

BSA will maintain effective communication with the Laboratory's many communities about the mission of the Office of Science, the Laboratory's scientific and technological achievements, and the priority initiatives as articulated in the Strategic Plan.

**Objective 4.2 – Provide for Responsive and Accountable Leadership throughout the Organization.**

The weight of this Objective is 40%.

**Measure 4.2.1**

Corporate Leadership - BSA is responsible and accountable for Laboratory performance.

**Target 4.2.1.1**

BSA will maintain and demonstrate effective processes to hold Laboratory management accountable for performance, including self-assessment and corporate-led assurance.

**Target 4.2.1.2**

BSA Corporate elements will engage constructively with Laboratory management to fully understand and, where necessary, assist in resolution of Laboratory issues.

**Objective 4.3 - Provide Efficient and Effective Corporate Support as Appropriate.**

The weight of this Objective is 30%.

**Measure 4.3.1**

BSA Corporate will provide resources to demonstrate its commitment to the success of BNL.

**Target 4.3.1.1**

Tangible resources will be provided by BSA Corporate to facilitate BNL objectives.

Consideration will be given to the strategic impact and the magnitude of corporate support, which may be in any form, such as:

- Enhancing relationships with state and local entities.
- Assuring leadership positions are filled in a timely manner.
- Leveraging agreements with external partners.
- Assisting with infrastructure improvement opportunities.
- Establishing joint appointments that are aligned with the strategic objectives of the Lab.
- Providing staff, expert advice, management systems, or similar assistance to achieve BNL objectives.

ELEMENT	Letter Grade	Numerical Score	Objective Weight	Total Points	Total Points
<b>4.0 Provide Sound and Competent Leadership and Stewardship of the Laboratory</b>					
4.1 Provide a Distinctive Vision for the Laboratory and an Effective Plan for Accomplishment of the Vision to Include Strong Partnerships Required to Carry Out those Plans			30%		
4.2 Provide for Responsive and Accountable Leadership throughout the Organization			40%		
4.3 Provide Efficient and Effective Corporate Office Support as Appropriate			30%		
<b>Goal 4.0 Total</b>					

**Goal 5.0 Sustain Excellence and Enhance Effectiveness of Integrated Safety, Health, and Environmental Protection**

**THE CONTRACTOR PROTECTS THE SAFETY AND HEALTH OF THE DOE CONTRACTOR WORKFORCE, SUBCONTRACTORS, THE COMMUNITY, AND THE ENVIRONMENT IN ALL DOE-SPONSORED WORK AT THE SITE, AND SUSTAINS AND ENHANCES THE EFFECTIVENESS OF INTEGRATED SAFETY, HEALTH AND ENVIRONMENTAL PROTECTION THROUGH A STRONG AND WELL-DEPLOYED SYSTEM.**

The weight of this Goal is 20%.

**Objective 5.1 - Provide a Work Environment that Protects Workers and the Environment**

The weight of this Objective is 20%.

**Measure 5.1.1**

BSA will demonstrate progress in achieving and maintaining “best in class” safety and health performance

**Target 5.1.1.1**

BSA will improve safety performance as measured by the days away, restricted or transferred case rate.

Expectation: BSA will meet the Office of Science FY 2007 goal of 0.25 cases per 200,000 hours worked

**Target 5.1.1.2**

BSA will improve safety performance as measured by the OSHA total recordable case rate.

Expectation: BSA will meet the Office of Science FY 2007 goal of 0.65 cases per 200,000 hours worked

**Objective 5.2 - Provide Efficient and Effective Implementation of Integrated Safety, Health and Environmental Management**

The weight of this Objective is 60%.

**Measure 5.2.1**

BSA will implement, maintain, and continually improve an integrated safety management system that:

- Clearly states environmental and occupational health and safety (ESH) policies, programs and objectives appropriate for BNL operations,

- Identifies ES&H risks and legal requirements,
- Takes a proactive approach to ES&H risks and involves employees in the development and implementation of procedures,
- Controls or eliminates ES&H risks to prevent accidents,
- Monitors environmental management system (EMS) and occupational safety and health management (OSH) system performance, and
- Ensures continual review, evaluation, and improvement of the system.

BHSO will evaluate the achievement of these objectives, measures and targets through their oversight and assessment activities.

**Target 5.2.1.1**

Work Planning and Control - Verify that the criteria used to clarify when skill-of-the-worker is to be used and for integrating hazards analysis requirements into skill-of-the-worker determinations have been implemented and are functioning as designed.

**Target 5.2.1.2**

Work Planning and Control - Integrate the use of job risk assessments and human performance into work planning and control practices: this includes the use of error precursors in the hazard analysis processes and pre-job briefings.

**Target 5.2.1.3**

Work Planning and Control - Establish and implement Laboratory-wide training and qualification requirements for work control managers and coordinators and qualify work control managers and coordinators.

**Target 5.2.1.4**

BSA will implement a safety observation process for Level 1, 2, and 3 managers. Expectations for the implementation and performance of the process will be directed by the Laboratory Director and will include:

- training for Level 1, 2 and 3 managers as appropriate
- expectations for the frequency and quality of field observations
- documentation of field observations
- dispositioning field observations and follow through tracking and trending of observation results

**Target 5.2.1.5**

Verify the completion of all corrective actions described in the ISM/Safety Improvement Plan related to “Evolve institutional performance and risk analysis to improve feedback to institutional decision-making”. BSA will demonstrate, from a selected set of completed actions, the effectiveness of the corrective actions and improvements implemented to prevent recurrence – 3<sup>rd</sup> quarter FY 2007. At a minimum, the selection will include all associated actions within “Renew Events/Issues Management.”

### **Measure 5.2.2**

ISO 14001 EMS and OHSAS 18001 Certification - BSA has acquired and maintained third-party certifications for the Environmental Management System (ISO 14001:2004) and the Occupational Safety and Health Management System (OHSAS 18001). These external certifications provide credibility and rigor to the implementation of the systems.

#### **Target 5.2.2.1**

Since many of the components of the BNL Environmental and OHS Management Systems are mandatory for maintaining registration, a simple measure of the robustness of these systems is the ability to maintain current certifications. Consequently, for this measure BNL shall maintain external certification of the Environmental Management System and Occupational Safety and Health Management System.

- Environmental Management System recertified to the ISO 14001:2004 standard by third party auditor.
- Occupational Safety & Health Management System recertified to the OHSAS 18001 standard by third party auditor.

### **Objective 5.3 – Provide Efficient and Effective Waste Management, Minimization, and Pollution Prevention.**

The weight of this Objective is 20%.

#### **Measure 5.3.1**

Legacy Environmental Projects - Over the past three years, good progress has been achieved identifying existing known environmental liabilities that are not included in the EM baseline, prioritizing the projects based on environmental and potential human health risks, and preparing high-level planning documents for some of the highest priority projects. To support more detailed planning and actions to address these projects, it is important that the risks and uncertainties are fully understood and communicated.

**Target 5.3.1.1 Risk Screening/Assessment - Develop and implement a strategy to reduce the risks and uncertainty associated with the highest priority projects. To accomplish this, the following will be implemented:**

- An initial risk screening and prioritization will be completed for all of the legacy environmental projects identified.
- A more detailed risk assessment will then be completed on the top four priority projects which would include key information on ways to eliminate or mitigate risks associated with each project.
- This information will be used to revise the ADSs for the top four priority projects, including development of phased cost estimates

for initial risk mitigation and ultimate disposal and/or D&D activities.

**Target 5.3.1.2**

Management Awareness and Communication - Once the risk assessments are completed, BSA management will be made aware of the results and a communications strategy will be developed.

- The information will be communicated to management on a schedule that ensures it is considered during the risk ranking process of Project, Planning, Programming and Budgeting Process (3PBP).
- A strategy and approach will be developed to communicate these issues to external stakeholders.

**Measure 5.3.2**

Nuclear Materials Disposition - Implementation of the Nuclear Materials Disposition Plan removes excess and un-needed nuclear materials and sources from BNL resulting in lower risk, reduced security concerns, and fewer administrative requirements related to maintaining these materials.

**Target 5.3.2.1**

Dispose of additional un-needed nuclear materials and sources and update documentation to identify programmatic need or lack thereof.

- Dispose or recycle all Thorium, Natural and Depleted Uranium and Pu-238 materials in the custody of the Isotopes and Special Materials Group that does not have an immediate and well-defined current (FY 2007), near future (early FY 2008) programmatic need or strategic value. Amend the Excess/Legacy Radiological Material report database to add a description of the project, routine activity, or research activity for which each remaining item is being retained, or a cost estimate for disposal of the material if funding is not sufficient to clear all excess items.

**Measure 5.3.3**

Pollution Prevention - BSA has maintained an active Pollution Prevention (P2) program and has provided overhead funding for projects with good return-on-investments. This program has had significant positive results in terms of reduced waste generation and cost savings. In FY 2007, P2 implementation funds have been zeroed out due to flat or declining budgets in ESHQ. In order to sustain this important program, it is proposed that line organizations will fund P2 projects that make economic sense and support BNL environmental stewardship goals.

**Target 5.3.3.1**

Each Directorate shall prepare a Pollution Prevention proposal and shall evaluate that proposal for internal funding. These proposals may address hazardous, radioactive or industrial wastes and may include efforts in

energy conservation, office recycling, or management of electronic wastes.

- By December 31 each Directorate shall submit one P2 proposal to the P2 council for evaluation of applicability and viability.
- By January 31 each Directorate will evaluate the proposal including preparing detailed cost estimates and calculation of a return-on-investment. Any proposal that results in a payback period of less than 3 years shall be made part of the FY 2008 budgeting process for funding consideration.
- By September 30 each Directorate shall prepare a full description of the proposed project, the source of funding for the coming year and provide a rough schedule for implementation. If a P2 proposal is not funded the organization shall provide justification as to why the proposal was not chosen for funding.

ELEMENT	Letter Grade	Numerical Score	Objective Weight	Total Points	Total Points
<b>5.0 Sustain Excellence and Enhance Effectiveness of Integrated Safety, Health, and Environmental Protection</b>					
5.1 Provide a Work Environment that Protects Workers and the Environment			20%		
5.2 Provide Efficient and Effective Implementation of Integrated Safety, Health and Environment Management			60%		
5.3 Provide Efficient and Effective Waste Management, Minimization, and Pollution Prevention			20%		
Goal 5.0 Total					

**Goal 6.0 Deliver Efficient, Effective, and Responsive Business Systems and Resources that Enable the Successful Achievement of Laboratory Missions**  
**THE CONTRACTOR SUSTAINS AND ENHANCES CORE BUSINESS SYSTEMS THAT PROVIDE EFFICIENT AND EFFECTIVE SUPPORT TO LABORATORY PROGRAMS AND ITS MISSIONS.**

The weight of this Goal is 20%.

**Objective 6.1 - Provide an Efficient, Effective, and Responsive Financial Management System(s).**

The weight of this Objective is 30%.

**Measure 6.1.1**

The effectiveness of the Financial Management System as validated by internal and external audits and reviews.

**Target 6.1.1.1**

Results of internal and external audits conducted by BSA's implementation of OMB Circular A-123, Internal Audits, DOE, GAO and external organizations demonstrate adequate control over unallowable costs and adequate internal controls.

**Measure 6.1.2**

The continual improvement of the Financial Management System through the monitoring of audit and review results, self-assessments/internal performance measures, and other information.

**Target 6.1.2.1**

Quarterly, CFO demonstrates improvements to financial system through self assessment process which takes into account recommendations from internal and external reviewers as well as self-identified improvements. Also actions taken to address issues in the management system during normal operations.

**Measure 6.1.3**

The Financial Management System meets performance expectations.

**Target 6.1.3.1**

The Financial Management System processes will meet the following expectations:

- Timely annual budget submission (FWPs)
- Budget execution - successful month-end and year-end closings
- Day-to-day utilization of system for reporting to DOE and Lab management

**Measure 6.1.4**

BSA will exercise effective management of costs (direct and indirect).

**Target 6.1.4.1**

Effective cost management will be measured by:

- Generation of revenue and cost projections
- Management and control of overhead and support costs
- Generation of variance analyses.

**Objective 6.2 - Provide Efficient, Effective, and Responsive Acquisition and Property Management Systems.**

The weight of this Objective is 25%.

**Measure 6.2.1**

The following items will be considered in determining the performance level of effective and efficient Acquisition and Property Management Systems:

- The continued certification of the procurement and property systems
- Meeting the needs of the internal and external customers
- The establishment and maintenance of appropriate internal controls
- The continuous improvement of the acquisition and property management systems in accordance with audits, reviews, strategic and corrective action plans
- The development of responsible corporate citizenship by establishing desirable business practices
- The continuous professional development of staff including awareness of acquisition and property management processes and procedures.

The overall evaluation of the measure may also consider any other relevant information directly or indirectly related to the acquisition and property management systems that provide evidence (either positive or negative) of the effectiveness/efficiency of the contractor in meeting the performance objective.

**Target 6.2.1.1**

The performance target will be the summary result of the laboratory's Procurement Balanced Scorecard self-assessment that has been verified and validated by DOE. The summary result must range from 3.1 to 3.4 in order to receive a B+ rating.

**Target 6.2.1.2**

The performance target will be the summary result of the laboratory's Property Balanced Scorecard self-assessment that has been verified and validated by DOE. The summary result must range from 3.1 to 3.4 in order to receive a B+ rating.

**Objective 6.3 - Provide an Efficient, Effective, Responsive Human Resources Management System, and Diversity Program.**

The weight of this Objective is 20%.

**Measure 6.3.1**

Effectiveness of HR systems/processes/services as validated through the use of a customer service survey.

**Target 6.3.1.1**

Customer feedback is between 3.5 and 4.0 on a five-point scale (with 5 highest), or

Action plans are implemented and measurable progress/action taken.

**Measure 6.3.2**

One major system or two processes are reviewed annually.

**Target 6.3.2.1**

Analysis against baseline data validates effective system/process, or  
Demonstration that system/process is clearly improved.

**Measure 6.3.3**

Success in attraction/retention of highly qualified employees.

**Target 6.3.3.1**

Acceptance rate for all new hires of 85%.

**Target 6.3.3.2**

Percent of terminating employees with the two highest performance levels  
(DP and CP) is 10% less than the percentage of the overall population  
with those two performance levels.

**Measure 6.3.4**

Demonstrate effective compensation management through high quality job  
documentation.

**Target 6.3.4.1**

Validate and update 90% of the job classifications on the Technical  
Monthly and Engineer/Scientific Associate Salary Schedules.

**Measure 6.3.5**

Demonstrate effective benefits management.

**Target 6.3.5.1**

Demonstrate proactive efforts in monitoring effectiveness of benefit plans.

**Measure 6.3.6**

Track employee participation in cultural awareness and Special Emphasis Month  
activities and events and grant credit in the HR Training system.

**Target 6.3.6.1**

For every hour of participation in cultural or Special Emphasis Month  
activities/events employees will receive ¼ hour of diversity training credit,  
not to exceed one hour of training credit in any fiscal year. The goal is to  
have 10% of the Laboratory workforce participate in cultural or Special  
Emphasis Month activities or events in FY 2007 using the new credit  
monitoring approach. Employees/participants will be asked to complete a  
Training Evaluation form for each activity or event to measure feedback.

**Measure 6.3.7**

Complete the recommendations of the Hewitt Diversity Emphasis Study.

**Target 6.3.7.1**

Complete 50% of the outstanding recommendations from the Hewitt Diversity Emphasis Study in FY 2007. Design a quarterly Diversity Newsletter that highlights the Laboratory's workforce demographics.

**Target 6.3.7.2**

Develop Section II of a tool to address diversity management accountability of Lab Managers and link to the performance appraisal process. Section II of the Diversity Engagement Practices (DEP) checklist should include 10 additional items to address diversity management practices. Section II of the DEP checklist will be reviewed by the Diversity Management Steering Council (DMSC) and Policy Council. 85% of Level I Managers will complete 100% of the items contained in Section I of the DEP checklist.

**Measure 6.3.8**

Success in delivery of diversity educational awareness with Laboratory wide participation in FY 2008.

**Target 6.3.8.1**

Achieve 75% of Basic Energy Science (BES) employee participation in FY 2007.

**Target 6.3.8.2**

Achieve 50% Lab-wide employee participation in FY 2007.

**Measure 6.3.9**

Plan and execute a recruitment program aligned with the Lab's Science & Technology strategic goals.

**Target 6.3.9.1**

Establish partnerships with recruitment personnel at six (6) additional Historically Black Colleges and Universities (HBCUs) or Minority Serving Institutions (MSIs). Report at least one measure of success resulting from partnerships with the initial six (6) HBCUs.

**Target 6.3.9.2**

Strengthen partnerships with recruitment personnel at the six (6) BSA colleges and universities

**Objective 6.4 - Provide Efficient, Effective, and Responsive Management Systems for Internal Audit and Oversight; Quality; Information Management; and Other Administrative Support Services as Appropriate.**

The weight of this Objective is 15%.

**Measure 6.4.1**

BSA will demonstrate efficient and effective business management systems, aside from the ones addressed in the Goal's other objectives, as validated by utilization and audit/assessment/benchmarking that drives continual improvement as appropriate.

**Target 6.4.1.1**

Based on the FY 2006 Third Party review of Independent Oversight, BSA will work with BHSO in evaluating the results and the development of improvement actions. Additionally, BSA will put together an independent Third Party Team, to review the effectiveness of the internal audit function in accordance with professional internal auditing standards. The Team will be put together within the first & second quarter and the review will take place in time to initiate actions. The Team will articulate whether or not the function is effective, efficient and responsive and/or needs improvement.

Where improvement is necessary, the team will identify those areas for improvement and BSA will respond in a timely manner to address necessary improvement action.

**Target 6.4.1.2**

In fiscal year 2006 BSA used a third party review team, to assess the Quality Assurance Program. The team made several recommendations for the improvement of BNL's Quality Assurance Program. In FY 2007 an assessment will be performed to evaluate the effectiveness, and responsiveness towards implementing the recommendations of the 2006 review.

**Target 6.4.1.3**

Through the use of a third party, The Hackett Group, BSA will conduct a follow up study of the IT Business Systems originally benchmarked in FY 2003. This Study will take the FY 2003 IT Business System portion of the study and evaluate the effectiveness of the current IT Business Systems.

**Objective 6.5 - Demonstrate Effective Transfer of Technology and Commercialization of Intellectual Assets.**

The weight of this Objective is 10%.

**Measure 6.5.1**

BSA exercises proper stewardship of intellectual assets and Laboratory owned or originated technology.

**Target 6.5.1.1**

BSA will report new inventions to DOE, filing U.S. and, where appropriate, foreign patent applications to create intellectual property assets. The Laboratory provides DOE with all intellectual property related reports and documents.

**Measure 6.5.2**

BSA created/generated technology transfer and deployment activities (e.g., licenses, option agreements) have impacted the market.

**Target 6.5.2.1**

BSA will operate its licensing program to identify inventions with commercial potential and to license at least 25% of these inventions to industry. BSA will provide incentives to its Licensees to invest in the development and deployment of licensed technologies.

**Measure 6.5.3**

BSA effectively communicates how to transfer technology to Laboratory researchers and potential licensees.

**Target 6.5.3.1**

BSA will conduct periodic intellectual property seminars in research departments and divisions as appropriate. Also, prospective licensees will be identified through market research and receive targeted licensing opportunities packages.

**Measure 6.5.4**

BSA realizes net revenue from its deployment of intellectual assets.

**Target 6.5.4.1**

BSA will operate its Licensing Program at a cost less than 25% of gross revenue, resulting in a significant share of licensing revenue being returned to the Laboratory.

ELEMENT	Letter Grade	Numerical Score	Objective Weight	Total Points	Total Points
<b>6.0 Deliver Efficient, Effective, and Responsive Business Systems and Resources that Enable the Successful Achievement of the Laboratory Mission(s)</b>					
6.1 Provide an Efficient, Effective, and Responsive Financial Management System(s)			30%		

6.2 Provide an Efficient, Effective, and Responsive Acquisition and Property Management System(s)			25%		
6.3 Provide an Efficient, Effective, Responsive Human Resources Management System, and Diversity Program			20%		
6.4 Provide Efficient, Effective, and Responsive Management Systems for Internal Audit and Oversight; Quality; Information Management; and Other Administrative Support Services as Appropriate			15%		
6.5 Demonstrate Effective Transfer of Technology and Commercialization of Intellectual Assets			10%		
Goal 6.0 Total					

**Goal 7.0 Sustain Excellence in Operating, Maintaining, and Renewing the Facility and Infrastructure Portfolio to Meet Laboratory Needs**

**THE CONTRACTOR PROVIDES APPROPRIATE PLANNING FOR LABORATORY FACILITIES AND INFRASTRUCTURE NEEDS REQUIRED TO EFFICIENTLY AND EFFECTIVELY CARRY OUT CURRENT AND FUTURE S&T PROGRAMS, AND MANAGES DOE FACILITIES AND INFRASTRUCTURE IN A COST EFFECTIVE MANNER THAT ENSURES THEIR SAFE AND RELIABLE OPERATION CONSISTENT WITH PROGRAM MISSIONS NEEDS AND DOE STEWARDSHIP REQUIREMENTS.**

The weight of this Goal is 15%.

**Objective 7.1 - Manage Facilities and Infrastructure in an Efficient and Effective Manner that Optimizes Usage and Minimizes Life Cycle Costs**

The weight of this Objective is 50%.

**Measure 7.1.1**

The management of real property assets to maintain effective operational safety, worker health, environmental protection and compliance, property preservation, and cost effectiveness while meeting program missions, through effective facility utilization, maintenance and budget execution.

**Target 7.1.1.1**

Maintain balanced priorities through effective utilization of the BNL Project, Planning, Programming and Budgeting Process (3PBP) project tracking and prioritization process. Have the Consolidated Unfunded

Requirements List (CURL) funded projects approved by the BNL Policy Council in a timely manner.

**Measure 7.1.2**

The maintenance and renewal of building systems, structures and components associated with the Laboratory's facility and land assets.

**Target 7.1.2.1**

BSA will maintain reliable electrical and building infrastructure. (Use existing infrastructure reliability index)

**Target 7.1.2.2**

The Laboratory's Maintenance Investment Index will meet DOE goals of  $MII \geq 2.0$ .

**Target 7.1.2.3**

The Laboratory's Deferred Maintenance Reduction expenditures will meet DOE proposed target for FY 2007.

**Objective 7.2 - Provide Planning for and Acquire the Facilities and Infrastructure Required to Support Future Laboratory Programs.**

The weight of this Objective is 50%.

**Measure 7.2.1**

Integration and alignment of the Ten Year Site Plan to the Laboratory's comprehensive strategic plan.

**Target 7.2.1.1**

BNL's Ten Year Site Plan is aligned with BNL's Business Plan. BNL's Project, Planning, Programming and Budgeting Process (3PPB) outcomes (e.g., projects approved by Policy Council) are aligned with BNL Business Plan. BNL will continue to study electric power supply options beyond the current three-year NYPA contract.

**Measure 7.2.2**

Efficiency in meeting Cost and Schedule Performance Index for construction projects (when appropriate).

**Target 7.2.2.1**

BSA manages Line Item and GPP projects effectively to agreed scope, schedule, obligation and cost baselines using agreed upon Project Management measures.

ELEMENT	Letter Grade	Numerical Score	Objective Weight	Total Points	Total Points
<b>7.0 Sustain Excellence in Operating, Maintaining, and Renewing the Facility and Infrastructure Portfolio to Meet Laboratory Needs</b>					
7.1 Manage Facilities and Infrastructure in an Efficient and Effective Manner that Optimizes Usage and Minimizes Life Cycle Costs			50%		
7.2 Provide Planning for and Acquire the Facilities and Infrastructure Required to support Future Laboratory Programs			50%		
Goal 7.0 Total					

**Goal 8.0 Sustain and Enhance the Effectiveness of Integrated Safeguards and Security Management (ISSM) and Emergency Management Systems**

**THE CONTRACTOR SUSTAINS AND ENHANCES THE EFFECTIVENESS OF INTEGRATED SAFEGUARDS AND SECURITY AND EMERGENCY MANAGEMENT THROUGH A STRONG AND WELL DEPLOYED SYSTEM. COMMENSURATE, TO THE GREATEST DEGREE POSSIBLE, WITH AN "OPEN CAMPUS" PHILOSOPHY, PROTECT LABORATORY FACILITIES, PERSONNEL, AND CLASSIFIED AND SENSITIVE INFORMATION FROM HARM BY IMPLEMENTING EFFECTIVE SAFEGUARDS, SECURITY, AND EMERGENCY MANAGEMENT PROGRAMS.**

The weight of this Goal is 20%.

**Objective 8.1 - Provide an Efficient and Effective Emergency Management System.**

The weight of this Objective is 35%.

**Measure 8.1.1**

The commitment of laboratory management to strong Emergency Management is appropriately demonstrated.

**Target 8.1.1.1**

The development (as necessary), maintenance and appropriate utilization of emergency management procedures and processes are effectively demonstrated.

**Target 8.1.1.2**

Emergency management events are reported and mitigated as necessary.

**Target 8.1.1.3**

Results of external reviews, surveys and inspections demonstrate that emergency management systems are effective.

**Objective 8.2 - Provide an Efficient and Effective System for Cyber-Security.**

The weight of this Objective is 35%.

**Measure 8.2.1**

BSA will demonstrate an effective cyber security system through external reviews, surveys and inspections.

**Target 8.2.1.1**

BSA will maintain Plans of Actions and Milestones (POA&M) schedules on or ahead of schedule.

**Target 8.2.1.2**

The results of the November 2006 SP-42 cyber security review will be satisfactory, with only minor areas for improvement noted.

**Target 8.2.1.3**

BSA participates with SC cyber security initiatives and is recognized by DOE and SC peers as a leader and/or has critical cyber security systems which are viewed as the “standard” for SC.

**Objective 8.3 – Provide an Efficient and Effective System for the Protection of Special Nuclear Materials, Classified Matter, and Property.**

The weight of this Objective is 15%.

**Measure 8.3.1**

The commitment of leadership to strong safeguards performance is appropriately demonstrated.

**Target 8.3.1.1**

Integration of Safeguards into the culture of the organization for effective deployment of the system is demonstrated.

**Target 8.3.1.2**

The maintenance and appropriate utilization of safeguards risk identification, prevention and control processes are demonstrated.

**Measure 8.3.2**

Safeguards events are reported and mitigated as necessary.

**Target 8.3.2.1**

BSA will demonstrate an effective Safeguards system through external reviews, surveys, and inspections.

**Target 8.3.2.2**

BSA will demonstrate employee and management awareness of their Safeguards responsibilities.

**Objective 8.4 – Provide an Efficient and Effective System for the Protection of Classified and Sensitive Information.**

The weight of this Objective is 15%.

**Measure 8.4.1**

The commitment of leadership to strong protection of classified and sensitive information is appropriately demonstrated.

**Target 8.4.1.1**

Events involving protection of classified and sensitive information are reported and mitigated as necessary.

**Target 8.4.1.2**

Demonstrate an effective Security system for the protection of classified and sensitive information through external reviews, surveys and inspections.

ELEMENT	Letter Grade	Numerical Score	Objective Weight	Total Points	Total Points
<b>8.0 Sustain and Enhance the Effectiveness of Integrated Safeguards and Security Management (ISSM) and Emergency Management Systems</b>					
8.1 Provide an Efficient and Effective Emergency Management System			35%		
8.2 Provide an Efficient and Effective System for Cyber-Security			35%		
8.3 Provide an Efficient and Effective System for the Protection of Special Nuclear Materials, Classified Matter, and Property			15%		
8.4 Provide an Efficient and Effective System for the Protection of Classified and Sensitive Information			15%		
<b>Goal 8.0 Total</b>					

## APPENDIX F

### Operations-Owned Strategic Focus Areas

#### Note

*The following pages are taken from the FY 2007 BNL Annual Laboratory Plan (ALP).*



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## Modernizing the Laboratory Infrastructure

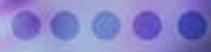
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Goal: Provide a world-class platform for forefront scientific research. Our site and infrastructure will:

- Convey a positive image of the Laboratory as a forefront, world-class laboratory.
- Serve as a recruiting tool to aid in attracting and sustaining top talent.
- Provide state-of-the-art scientific support facilities
- Provide a work environment that is operationally reliable, and cost competitive.



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## Achieving Excellence in ESS&H

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### Goal:

- To create an injury-free environment for ourselves, our coworkers and our guests
- Ensure the security of our employees, contractors, visitors and guests; safeguard DOE and BSA assets, and safeguard classified material and hazardous material in the interest of national security
- Conserve resources and minimize or eliminate adverse environmental effects and risks to the public and the environment that may be associated with our research and operations.



## APPENDIX G

### Operations-Owned Management Systems

The following Management Systems are owned by Operations:

Management System	Steward	Point of Contact (POC)
Acquisition Management	M. Bebon	M. Healey
Property Management		M. Healey
Work Planning & Control		C. Johnson
Administrative Support	A. McNerney	J. Swenson
Emergency Preparedness		J. Searing
Emergency Response Service		J. Levesque
Facility Operations		L. Warren
Real Property Asset Management		M. Fallier
Security		J. Amabile, G. Gross, C. Schaefer
Environmental Management	J. Tarpinian	G. Goode
Facility Safety		J. Ellerkamp
Hazardous Material Transportation Safety		G. Shepherd
Integrated Assessment Program		R. Lebel
Quality Management		R. Lebel
Radiological Control		C. Schaefer
Standards-Based Management System		J. Wilke
Worker Safety & Health		P. Williams

Management System Descriptions can be accessed via the SBMS Website at <https://sbms.bnl.gov/MSDmain.cfm>

