

**Brookhaven Site Office  
Environment, Safety & Health  
Management Plan**

**January 2013**



U.S. DEPARTMENT OF  
**ENERGY**

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Office of Science

**Brookhaven Site Office (BHSO)**  
**Environment, Safety & Health Management Plan**  
**January 2013**

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## Brookhaven Site Office (BHSO)

### Environment, Safety & Health Management Plan

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## 1.0 Introduction

The purpose of this Environment, Safety & Health (ES&H) Management Plan is to describe how activities in the ES&H areas are managed at the Brookhaven National Laboratory (BNL) by the U.S. Department of Energy's (DOE) Brookhaven Site Office (BHSO). The BHSO ES&H Management Plan sets the following expectations for all activities conducted at BNL:

- Conduct operations in a safe and environmentally sound manner in order to protect worker and public health and the environment.
- Compliance with all applicable ES&H-related federal and state laws, local ordinances, and with contractually agreed upon DOE Orders and Directives.
- Analyze ES&H risks associated with laboratory operations, appropriately allocate risk reduction resources and implement appropriate risk reduction measures.
- Ensure that federal financial resources are being efficiently spent to reduce the greatest amount of imminent and potential risk.
- Ensure that an effective Contractor Assurance System is in place and functioning as expected.

The principles of Performance Based Management (PBM), Integrated Safety Management (ISM) and the "Graded Approach" are the primary tools used by BHSO for the management of all ES&H activities at BNL and the fulfillment of the above ES&H expectations.

The key elements of PBM include: Setting Expectations, Monitoring Performance, Facilitating Performance and Providing Feedback. The PBM elements are utilized in the management of the DOE contract with Brookhaven Science Associates (BSA), in BHSO's oversight activities at BNL and interactions with other DOE organizations. ISM is used by BHSO to provide a level of confidence that work at BNL is being conducted in a safe manner. The core functions of ISM include: Define Scope of Work, Analyze Hazards, Develop and Implement Hazard Controls, Perform Work within Controls, and Provide Feedback and Continuous Improvements.

The concept of "graded approach" is integrated with PBM and ISM. The "graded approach" requires that hazards (the danger inherent in the activity) be assessed, and then designs, methods, processes, and procedures be implemented to control the risks, including residual risks (i.e., any risk remaining after appropriate controls have been implemented.) In other words, the "graded approach" can also be described in the following manner: *The greater the hazard or risk, the more detailed the risk management process.* The "graded approach" is integrated into the allocation of all BHSO resources.

## 2.0 DOE and BHSO Organizational Structure

The BHSO reports to the Office of Science (SC) and holds line responsibility for all ES&H matters at the BNL site. BHSO is comprised of the Site Manager's office

(including Legal Counsel, and Community and Government Relations), the Operations Management Division (OMD), the Project Management Division (PMD) and the Business Management Division (BMD). OMD and PMD have direct responsibilities related to ES&H and monitor contractor implementation of ES&H programs. The Business Management Division (BMD) has the lead in managing contractual matters, budget, and other administrative programs (i.e., Work for others, property management, and training).

### **3.0 Roles and Responsibilities**

It is essential to the BHSO and BSA missions that all employees and visitors conduct their jobs safely and in compliance with established ES&H requirements and standards. BHSO employees and their contractors are required to know and understand DOE and BSA ES&H requirements. Therefore, employees at BHSO must complete all required DOE and BSA ES&H training and maintain their training status current. BHSO personnel must also conduct all their activities in accordance with established DOE Orders, Directives, regulations and procedures.

The BHSO Site Manager and Division Directors are responsible for providing leadership and communicating all ES&H expectations to BHSO employees. They also assess the necessary training and allocate resources. BHSO management is also responsible for providing leadership in the ES&H areas and holding BHSO staff accountable for ES&H requirements.

BHSO Division Directors plan, organize, direct, and manage work and/or personnel in their programmatic, facility, or functional area of responsibility. Division Directors are required to maintain ES&H expertise and know the applicable ES&H regulations, DOE regulations and DOE Orders to ensure that they are being complied with by BSA as specified in the BSA contract.

### **4.0 Training and Qualification**

BHSO technical personnel receive specific ES&H training in core competencies and participate in formal qualification programs. BHSO personnel may also demonstrate, through education and/or work experience, the required knowledge, skills, and abilities necessary for their assignment. BHSO employees develop Individual Development Plans (IDP) which specifies their training and development plans for the Fiscal Year (FY). The IDPs provide a formal mechanism for BHSO staff to keep their ES&H training and qualifications current.

Facility Representatives (FRs) participate in a formal qualification program as required. BHSO maintains minimum qualification standards for Subject Matter Experts (SMEs) and Subject Matter Authorities (SMAs). A risk-based graded approach was followed in determining whether a SME or SMA is sufficient for an ES&H functional area.

Federal Project Directors (FPDs) are also required to obtain the appropriate certification level in the DOE Project Management Career and Development Program (PMCDP). ES&H training and proficiencies are included in this certification program.

SMEs and FPDs also complete specific training to maintain proficiency in their areas of expertise and participate in cross-training activities to enhance their overall capabilities. These SMEs and FPDs must also maintain specific knowledge regarding DOE general standards and requirements, site ES&H programs, and project design and ES&H requirements in accordance with BHSO procedures for qualifications certifications.

## 5.0 Performance Based Management (PBM) Approach Defined

The following are the key elements of Performance Based Management (PBM) and implemented through the Performance Evaluation and Measurement Plan (PEMP) which ensures that BSA's performance is consistent with DOE's performance objectives:

- Setting Expectations  
Establish and communicate expectations and requirements to guide BSA planning, conduct of work activities and results.
- Monitoring Performance  
Monitoring BSA operations, work activities and deliverables to ensure that contract expectations and requirements are being met.
- Facilitating Performance  
Ongoing DOE federal employee operational awareness activities, which promote contractor performance.
- Providing Feedback  
Developing and communicating performance results from the monitoring processes to the contractor so as to improve future performance.

## 6.0 Integrated Safety Management (ISM) Implementation

The BHSO transmits DOE's expectations for a current and valid Integrated Safety Management (ISM) System to BSA through contractual requirements. ISM System status is evaluated annually by examining performance measures, BSA's Annual Self-Evaluation, BSA ISM effectiveness reviews and declarations, and BHSO operational awareness data gathered throughout the FY. Results are subsequently reported to SC Headquarters (HQ), including accomplishments, opportunities for improvement and system status in the areas of process robustness, system effectiveness and continuous improvement.

BHSO also has a Site Office ISM Program Description. The purpose of this document is to describe the integrated processes used by BHSO to meet the principles and functions of ISM and to ensure safety is integrated into all work activities. This program description addresses the safety processes used by and oversight provided by BHSO employees and BHSO subcontractor employees only.

## **7.0 BHSO ES&H Operational Awareness Activities**

BHSO conducts planned ES&H operational awareness activities to provide a level of confidence that BSA is in compliance with DOE expectations and requirements. The BHSO ES&H operational awareness activities are performed in accordance with the principles of Performance Based Management and the objectives established in the PEMP. A key goal of BHSO's operational awareness activities is to ensure that BSA has a fully functional ISM system. BHSO selects and conducts operational awareness activities utilizing the "graded approach."

The following are examples of ES&H operational awareness activities performed by BHSO FRs and SMEs:

### **7.1 BHSO Facility Representative ES&H Operational Awareness Activities**

- Walkthroughs of facilities;
- Surveillances of facilities to monitor specific activities;
- Performance of readiness assessments and operational readiness reviews;
- Regular meetings with appropriate contractor departmental/facility and ES&H personnel;
- Observation of BSA event/issue critiques and investigations;
- Review of all BSA occurrence reports;
- Observation of BSA self-assessment activities;
- Review of BSA self-assessment program reports;
- Maintaining general knowledge of departmental/facility procedures, hazard and safety analysis documents and emergency plans;
- Observing selected BSA review (safety, experimental, etc.) committee processes;
- Monitoring investigations of BSA employee ES&H concerns;
- Conducting regular BHSO internal staff meetings on ES&H issues; and
- Participating in meetings between BHSO SMEs and Federal Project Directors and BSA ES&H management personnel.

### **7.2 BHSO SME ES&H Operational Awareness Activities**

- Assessments – BHSO SME assessments are pre-planned, formal reviews of performance in a specific functional area or multiple functional areas within a

specific facility or department or across the entire Laboratory. BHSO's assessment program compliments day-to-day monitoring of activities to ensure that BHSO maintains comprehensive awareness of BSA performance in ES&H, Quality, and Safeguards and Security. The assessment process also provides assurance that BSA is in compliance with applicable regulations, requirements and standards.

- "For Cause" Reviews – BHSO SMEs also conduct "For Cause" reviews to evaluate specific performance issues, examine causes for declining performance, and/or address specific operational events.
- BHSO has entered into an agreement with the Environmental Protection Agency (EPA) to promote environmental excellence at BSA through implementation of formal Environmental Management Systems (EMS). A key element of this agreement is a commitment by BHSO to conduct periodic process reviews and EMS audits to monitor the effectiveness of the programs developed and implemented by BSA.

### **7.3 BHSO Quality Assurance Program**

DOE and contractors are required to develop and implement Quality Assurance Programs. BHSO reviews and approves the contractor's Quality Assurance Program Description (QAPD) on an annual basis.

BHSO also maintains a Quality Management Plan or Quality Assurance Program Description (QAPD) which describes how BHSO performs work and ensures quality. This plan has been approved by SC and is reviewed on an annual basis.

## **8.0 ES&H/Infrastructure Prioritization and Integration**

BHSO provides oversight of BSA's analysis, prioritization, planning and execution for allocating resources to support ES&H program and infrastructure needs. The BSA process called the Project, Planning, Programming and Budgeting Process (3 PBP) uses an Activity Data Sheet (ADS) Database to list and prioritize ES&H and infrastructure projects needed for the BNL site and track unfunded risks. The BHSO oversight encompasses integration of all activities that are ES&H, infrastructure, and programmatic support related. The prioritization process is a vital link in ensuring recognized deficiencies are corrected, the required infrastructure is maintained, and cost-effective improvements based on total risk reduction is implemented. BHSO is responsible for ensuring that BSA implements their process in accordance with DOE performance expectations and past agreements. BHSO also partners with BSA to ensure optimal use of ES&H and infrastructure resources.

## **9.0 Data Analysis Activities**

BHSO tracks and analyzes pertinent ES&H information obtained through BHSO's ES&H operational awareness activities, and provides valuable feedback to BSA, DOE senior

management and other BHSO customers and stakeholders. BHSO data analysis activities include:

- Review and approval of occurrence reports;
- Tracking occurrence report corrective actions;
- Review and approval of Operational Readiness Reviews, Readiness Assessments, Accelerator Readiness Reviews;
- Analysis and approval of Project Design Modifications;
- Review and approval of ES&H implementation plans;
- Trending analysis of events and issues from Operational Awareness activities;
- Review of BSA Self-Assessments;
- Analysis of BSA performance in relation to the ES&H performance measures in the Contract; and
- Event/Issue management analysis of special investigative reports.

OMD has the primary responsibility for analyzing ES&H information and providing the necessary feedback. OMD staff document their ES&H activities by providing input into a weekly report. The report documents key issues, occurrences and events, activities and information on facility status. A copy of this report is provided to the BHSO senior staff (Site Manager, Deputy Area Manager and Division Directors).

An Issues Management Program database is also used to track and trend operational awareness data. Data in the Issues Management Database is sorted under various parameters in order to identify emerging trends. Data from such analyses is also shared with BSA.

OMD staff also track contractor commitments and corrective actions made based on BHSO operational awareness activities or critiques/analyses from events/issues management in the BSA Action Tracking System (ATS). The DOE Occurrence Reporting and Processing System (ORPS) database is also used to track commitments for corrective actions made following reportable events. BHSO staff periodically analyze data from assessments, surveillances, ORPS reportable events, and BSA self-assessment activities (i.e. Tier I, institutional self-assessments and BSA ES&H assessments) to identify trends, recurrent issues, and patterns that may indicate programmatic weaknesses.

## **10.0 Feedback**

Feedback is an important element of PBM and ISM. The following provides the various mechanisms through which BHSO provides feedback on ES&H activities and issues.

## 10.1 Feedback to BSA

Feedback from BHSO to BSA of ES&H oversight results involves two separate responsibilities. The first involves verifying that the Laboratory has implemented appropriate internal ES&H feedback management systems. These systems might include programs such as self-assessment, ES&H commitment tracking, and occurrence report lessons learned distribution. Verification is accomplished through routine Operational Awareness activities performed by the FRs and SMEs.

The second responsibility is to implement a system to ensure that results from BHSO's operational awareness program are properly provided to BSA. ES&H feedback from BHSO is provided to BSA in the following ways:

- BHSO Tri-Annual Feedback Report and follow-up management meeting;
- BHSO Senior Managers' meetings with BSA Director;
- BHSO management provides feedback to BSA ES&H management at other numerous regularly scheduled meetings;
- For Cause meetings with BSA management and personnel are held as needed to discuss significant occurrences or time sensitive issues;
- In the course of performing day-to-day operational awareness activities, BHSO FRs, SMEs, and FPDs routinely provide immediate guidance and information on observed deficiencies and recommendations to correct deficiencies to BSA personnel. Most of these exchanges involve minor issues and are transmitted and tracked in an informal manner. Items of significance are captured in routine BHSO reports.
- Monthly meetings with BSA to address environmental compliance issues;
- Approval or comments on BSA safety documentation or implementation plans when required by DOE directive;
- BHSO personnel discuss BSA event/issue and occurrence reports with BSA facility and ES&H personnel, provide comments, and approve the reports; and
- BHSO personnel are authorized to exercise Stop Work Authority as delegated by the Contracting Officer to terminate any activity and/or to order the shutdown of a facility for any situation that poses an imminent threat to the safety of BSA personnel or the public, or that would damage facility equipment or the environment.

## 10.2 Feedback to DOE

- Feedback to SC

BHSO reports through SC to the Secretary of Energy. BHSO provides informal and formal periodic reports (i.e. Project Assessment and Reporting System) to the representatives of the SC regarding all activities at BSA including ES&H. These reports identify events, issues, emerging concerns, and impediments to effective program implementation that require resolution. In addition, BHSO provides periodic status reports regarding the Operational Awareness Program.

- Feedback to the Office of Environmental Management (EM)  
Feedback to the EM Site Federal Project Director is provided via senior staff meetings. The EM Site FPD is responsible for coordination with EM HQ.
- Feedback to the Office of Health, Safety and Security (HSS)  
BHSO provides information to HSS regarding the status of important issues, status of corrective actions from previous assessments, and emerging issues and concerns (i.e. Occurrence Reporting, Price Anderson Act information).

### **10.3 Feedback to Stakeholders**

BHSO is committed to sharing important ES&H information with stakeholders including State and local governments, labor unions, other Federal agencies and the public. Through BHSO's Stakeholder and Community Involvement Programs, BHSO uses a wide range of mechanisms to share information including mailings, meetings, newsletters, briefings of officials, and periodic reports.

## **11.0 DOE-BSA Contract and Performance Measures**

The DOE contract with BSA became effective January 5, 1998 and BSA assumed operational responsibilities of BSA on March 1, 1998. The new performance based contract requires BSA to use a Performance Based Management System for Laboratory oversight.

A key feature of the BSA and DOE contract are Performance Measures. Performance Measures are developed to satisfy specific outcomes outlined in the contract for evaluating BSA performance. In order for both BSA and DOE to receive the maximum benefit and use from the Performance Measures, the process requires attention to ensure that the measures for the current FY are on track and that measures for the succeeding FY are developed to reflect DOE's goals and objectives.

ES&H Performance Measures currently constitute a major portion of the Contractor Assurance System (CAS). The success of selecting the appropriate ES&H Performance Measures depends on trending and performance analysis of ES&H data and implementation of lessons learned and corrective actions from BSA, around the DOE complex and industry.

At the close of each performance cycle, BSA submits a self-assessment to BHSO that evaluates their own performance against the agreed upon measures. BHSO's

acceptance of BSA's self-assessment occurs after rigorous evaluation and discussion within BHSO and with BSA.

## **12.0 BHSO Self-Assessment**

An organizational level self-assessment is conducted yearly to measure performance against established goals and objectives and to implement any corrective actions necessary for improvement. This BHSO Self-Assessment Procedure identifies the components necessary for a comprehensive self-assessment and recommends a systematic process to follow for planning and conducting a self-assessment at BHSO. The BHSO Self-Assessment process consists of developing a Self-Assessment Plan at the beginning of the FY and completion of a Self-Assessment Report at the end of the FY.

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