OHSAS 18001 Management System Description
Energy Environment and National Security (EENS) Directorate

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EENS OHSAS 18001 Management System Description Rev: 1 9/25/06	**PREPARED BY:** OHSAS Implementation Committee **APPROVED BY:** Ralph James, EENS ALD Ralph B James Date: 10/3/06

Introduction

This purpose of this document is to define how the Energy, Environment & National Security (EENS) Directorate executes and maintains an OHSAS 18001 Management System. Specifically, this information is complementary to the BNL OHSAS 18001 Management Plan and provides details as to how various OHSAS requirements are specifically addressed in the EENS Directorate. This information can be found on the EENS ESH Webpage.

4.1 General Requirements (OHSAS 18001 Clauses 4 and 4.1)

BNL has established and maintained an Occupational Safety and Health (OSH) (Pilot for OHSAS 18001) Management System Description at the institutional level that is embedded within the BNL Management System approach. This document is used to implement the OSH 18001 program elements in EENS. The SBMS Management System Description provides documentation describing Laboratory OSH program. The content of the SBMS documents addresses the external requirement sources that apply to BNL's work. The processes that BNL uses to implement the requirements of OHSAS 18001 are described within these documents.

The OSH Management System includes activities in the Environmental Sciences, Energy Sciences and Technology, and Nonproliferation and National Security Departments, as well as all employees, collaborators, contractors, students, and visitors who conduct work in these areas. Work performed within other Departments or Divisions by EENS personnel, or work performed in EENS buildings by personnel from other Departments or Divisions (such as Plant Engineering) is not included in the scope of this OSH. The EENS OSH does not cover work that is performed offsite.

- The **Environmental Sciences Department** is comprised of the Atmospheric Sciences Division, and the Environmental Research & Technology Division. The environmental programs include atmospheric physics and chemistry, carbon cycle research, plant ecology, and bioremediation. These efforts respond to the Department of Energy's mission to study the transport and fate of energy-related pollutants and also the effects of those pollutants on global climate and human health.
- The **Energy Sciences & Technology Department (EST)** is Brookhaven Laboratory's focal point for applied energy research, development, demonstration and deployment (RDD&D) activities for renewable, fossil and nuclear systems. Our mission is to perform basic science, analyses and technology development that provide innovative solutions to some of the world's most important energy challenges. Our staff works with other experts at BNL and government laboratories, industry and academia to support Department of Energy strategic goals.
- The **Nonproliferation & National Security (NNS) Department** focuses on nuclear materials safeguards and security; integrated material control and accountability, physical protection, records and reporting, arms control verification and technical support in non-nuclear areas. The NNS

Department is currently working on technology for counter-terrorism, critical infrastructure protection, and advanced detector development and testing. The mission of the Nonproliferation and National Security Department is to carry out research and development, provide technical support, and build prototype systems in order to further U.S. Government initiatives and policies in nuclear materials safeguards and security.

4.2 Occupational Safety and Health Policy (OHSAS 18001 Clause 4.2)

BNL emphasizes the Laboratory's specific commitments to Occupational Safety and Health management and improvement through issuance of a BNL Environmental, Safety, Security and Health Policy (ESSH). This policy statement refines and applies the overarching OSH policies to the specific Occupational Safety and Health risks of work conducted at BNL. The EENS Directorate adheres to this policy. The policy is on the BNL website and is posted in the offices of the Department Chairs and in the EENS Associate Laboratory Directorates Office. This Policy is communicated to employees and guests through Department Meetings, Directorate meetings, training, and is posted on BNL's web site and in the buildings.

4.3 Planning (OHSAS Clause 4.3)

Planning for Hazard identification, Risk Assessment and Risk Control (OHSAS 18001 Clause 4.3.1)

The EENS Directorate has implemented lab-wide programs for identifying the Occupational Safety and Health hazards and risks of its current activities, products, or services. The OSH-related hazard and risk assessment BNL processes are:

- Facility Hazard Categorization Subject Area
- Facility Risk Analysis (FRA) Interim Procedure and the Job Risk Analysis (JRA) Interim Procedure
- Work Planning and Control for Experiments and Operations Subject Area
- Environment, Safety, Health and Quality (Tier I) Inspections Subject Area
- Documenting OSH Management System (OSH MS) Objectives/Targets and OSH Management Programs (OMPs) Interim Procedure
- Safety Analysis Documents

The EENS implemented programs are:

- Experimental Safety Review Documents (ESRs)
- Job Risk Analyses (JRAs)
- Work Permits
- Facility Risk Analyses (FRAs)
- The Facility Use Agreements can be found on the SBMS homepage.

Legal and other Requirements (OHSAS Clause 4.3.2)

The procedure for identifying and accessing specific legal and other requirements relevant to OS&H is defined in the Legal and Other Requirements Interim Procedure. A Change Management Checklist Interim Procedure is used to review changes in facilities and operations against SBMS requirements and external industry standards. The OSH Representatives are notified of changes in OSH relevant subject areas and determines how the change affects the Departments, what needs to be implemented, and how the affected individuals are notified. If it requires a significant change in procedure, the appropriate safety committee and/or Line Management will be involved in the process as needed.

Objectives (OHSAS 18001 Clause 4.3.3)

BNL has Critical Outcomes and Performance Measures, which clearly identify all objectives, targets and performance measures. The EENS Directorate establishes objectives and targets at the Directorate level that support the Laboratory's Critical Outcomes. They are incorporated into the EENS OSH Management Plans (Objectives and Targets).

OSH Management Program (OHSAS Clause 4.3.4)

Institutionally, BNL has an Integrated Planning Management System that defines a systematic approach to a holistic development and review of the Laboratory's goals, objectives, desired outcomes, and strategies for achieving these. The Integrated Planning process facilitates the necessary decisions on resource allocation to achieve those results. As part of that process BNL develops Critical Outcomes and Performance Measures (COPMs) (see Performance Evaluation and Management Plan), which identify goals, objectives and performance measures. During the development of the COPM (see COPM Subject Area), the views of interested parties are considered as well as legal and other requirements and the significant worker safety and health aspects within the organization. To assist in the flow down of the COPM goals, the BNL ES&H Objectives and Targets is used along with input from the BNL OSH Management Representative and the Directorate's performance data to establish its objectives. The Directorate goals and objectives are in the EENS OSH Management Plans. They are reviewed, revised, and approved at least annually via the self-assessment process and the Management Review. The Management Review is an evaluation of overall performance both qualitatively and quantitatively, for purposes of identifying key improvement opportunities in the OSH Management System, which are then rolled into the subsequent years Objectives & Targets.

Self-assessments, Tier I inspections, and compliance audits are performance indicators for compliance. OSH hazards and associated risks are identified during through routine work planning activities, Tier I inspections, and communications with staff. The Experimental Safety Review Coordinator maintains tracking systems for corrective actions and improvement opportunities that are identified during experimental review.

The EENS OSH Management Program will be reviewed annually via a Management Review. This is identified and tracked through the EENS OSH Management Plans. Mid-year changes may be required if a new hazard, risk, or critical goal is identified or circumstances change. Management will concur with any mid-year changes. The OSH Reps./Committee will track progress and completion on all OSH Management Plans.

EENS has a responsibility to assist the Laboratory in achieving success on the Critical Outcomes. These actions augment the activities conducted at the Laboratory level and target the actions needed to achieve and maintain compliance, or improve the OSH Management System. The Documenting OSH Management System (OSH MS) Objectives/Targets and OSH Management Programs (OMPs) Interim Procedure provides the process and recommended tools to help EENS to achieve their objectives. Self-assessments, Tier I inspection program, and compliance audits are mechanisms used to monitor and evaluate performance, including progress in meeting objectives. When new experiments are initiated or modified, Occupational Safety and Health hazards are analyzed for risks and if deemed significant, then methods to reduce the risks are incorporated.

4.4 Implementation and Operation (OHSAS 18001 Clause 4.4)

Structure and Responsibilities (OHSAS 18001 Clause 4.4.1)

The responsibilities for compliance with BNL's ESSH policy are a part of the Roles, Responsibilities, Accountabilities, and Authorities (R2A2) for all employees. The process for identifying employee R2A2s is documented in the Roles, Responsibilities, Accountabilities, and Authorities (R2A2) Subject Area, which is provided and maintained through the Human Resources Management System Description. Specialized roles are assigned and reflected in R2A2s. The subject area includes the following Occupational Safety and Health responsibilities for all staff:

- Comply with Laboratory policies, standards, and procedures, and regulatory requirements.
- Perform work effectively, efficiently, and safely.
- Identify potential hazards, Occupational Health and Safety concerns and unsafe conditions or practices in work or at the work site, and implement or suggest controls to minimize risk.
- Respond to emergency situations, alarms, or occurrences in an appropriate manner.
- Cease work activity, and/or issue a Stop Work Order upon observing imminent danger, and report the danger immediately to supervisor or ESH Coordinator.
- Adhere to instructions on location warning signs and postings.
- Prevent work-related injuries, ill health and incidents.
- Where appropriate, provide input on safety and health to the Worker Occupational Safety and Health Committee, one's supervisor and one's management.
- Take action when OSH controls fail.
- Contact supervision if one is unsure of how to perform the work or if the procedures are unclear or incorrect.
- Ensure that one's required training is current.

Specific OSH responsibilities are identified in the EENS OSH Key Contacts List. BNL has named James Tarpinian as the BNL OSH Management Representative.

Line Management and staff are ultimately responsible for the identification and reporting of hazards and risks. This is accomplished by the reporting of any new experiments or modifications to existing

experimental activities to the Experimental Safety Review Coordinator or to the Work Control Coordinator as required by Work Planning and Control for Experiments and Operations Subject Area.

Training, Awareness and Competence (OHSAS 18001 Clause 4.4.2)

The Training and Qualification Management System Description defines BNL's training policy. Basically, training is identified through Experimental Safety Review, Routine Work Planning and by using the Training and Qualifications Subject Area.

Work-specific training requirements are identified through Experimental Safety Review, Routine Work Planning and documented on JTAs. Required training is documented/tracked via the Brookhaven Training Management System (BTMS). The Training Coordinators track required training. Supervisors ensure that their employees/collaborators training are complete before they can start work on any given activity involving a significant occupational safety and health aspect.

Consultation and Communication (OHSAS 18001 Clause 4.4.3)

Communication within the Laboratory is covered by the Laboratory's implementation of the SBMS System. Communication is covered in the following subject areas:

- Correspondence and Commitment Tracking Subject Area
- External Communications Mgmt System Description
- Internal Communication Mgmt System Description
- Community Involvement in Laboratory Decision-making

Employees are involved in the development and review of policies and procedures to manage risks; may be consulted where there are any changes that affect workplace health and safety; and are represented on health and safety matters by participation in Directorate Safety Committees, and by participation in the work planning and control process.

EENS employees are informed of OSH issues through training/briefings, meetings, review of Experimental Safety Reviews and Work Permits, emails, memos, the BNL and EENS ESH Websites and distribution of OSH information bulletins.

Documentation (OHSAS 18001 Clauses 4.4.4 and 4.5.3)

This document and all documents incorporated by reference or attachment to this document satisfy the OSH documentation requirements. A list of EENS OSH Documents is maintained by the EENS Research Operations Office and is available on the EENS ESH Webpage.

Document and Data Control (OHSAS 18001 Clauses 4.4.5 and 4.5.3)

Document control is implemented as per the requirements in the Internal Controlled Documents Subject Area. A list of EENS OSH Controlled Documents is maintained by the EENS Research Operations Office and is available on the EENS ESH Webpage. The list identifies the cognizant manager, review cycle, and location as appropriate. They are reviewed as needed. The OSH Representatives or appropriate departmental system owners approve them.

Operational Control (OHSAS 18001 Clauses 4.3.1 and 4.4.6)

Each facility within the EENS Directorate has in place a Facility Use Agreement, which defines the operating envelope of the building. Operational and administrative controls to address identified hazards and risks are determined through the Work Planning and Control for Experiments and Operations Subject Area and an OSH risk assessment process. These controls are identified in Experimental Safety Reviews and Work Permits.

Establishing and implementing operational controls for activities that have substantial risk is documented in the Job Risk Analysis (JRA) Interim Procedure and Facility Risk Analysis (FRA) Interim Procedure. Risk, in this context, is the product of several factors such as frequency, likelihood and severity. Points for frequency, likelihood and severity are based on a stepwise numerical system developed by the Liberty Mutual Company. A specific range of point values for risk is associated with one of five descriptive classes of risk: negligible, acceptable, moderate, substantial and intolerable. A list of operations and activities considered for risk assessment and the resulting JRAs is maintained by the OSH Management Representatives and is maintained on the EENS ESH Website.

Suppliers/Contractors abide by our OSH system as it applies to the work they are doing in our facilities as required in their contract (see BNL Procurement Operations Manual, Section III-A). The work is screened via experimental review or work permits following the Work Planning and Control for Experiments and Operations Subject Area.

Emergency Preparedness and Response (OHSAS 18001 Clause 4.4.7)

BNL's Emergency Preparedness and Off-Normal Event Reporting and Emergency Response Services Management System describe the programs established and maintained for identifying and responding to accidents and emergency situations. EENS follows the Emergency Preparedness Subject Area and Stop Work Subject Area.

Each building has a Local Emergency Plan based on the Emergency Preparedness Subject Area. These plans are reviewed/updated as required and in compliance with the BNL emergency procedures. The Hazardous Waste 90-Day Areas in buildings have posted Contingency Plans. The ESRs for specific research projects also include emergency response information specific to the activity.

BNL carries out drills involving OSH issues. Participation of all departments in these drills is mandatory for all employees, visitors and guests on site at the time. In addition, EENS conducts annual drills.

4.5 Checking and Corrective Action (OHSAS Clause 4.5)

Performance Measurement and Monitoring (OHSAS 18001 Clause 4.5.1)

OSH monitoring, measurement and calibration will be conducted in conformance with the requirements in the Calibration Subject Area.

Objectives and Targets are documented and tracked using the Operational Safety and Health Management Plan. Compliance performance is monitored via targeted compliance assessments, quarterly Tier I inspections, and self assessments. The results of Tier I inspections are tracked. On a routine basis Tier I results are evaluated at the Laboratory level to assess overall performance. Performance against the objectives is reviewed annually via EENS Management Review.

Accidents, Incidents, Non-conformances and Corrective and Preventive action (OHSAS 18001 Clause 4.5.2)

EENS follows the Nonconformances, Identifying and Reporting and Corrective and Preventive Action Subject Areas and applies a graded approach using the Graded Approach for Quality Requirements Subject Area. The Job Risk Analysis (JRA) Interim Procedure and Facility Risk Analysis (FRA) Interim Procedure require the OSH Management Representatives to schedule and assign appropriate personnel to conduct or update a Job Risk Analysis or Facility Risk Analysis of proposed corrective/preventive actions associated with a critique, occurrence, near-miss or non-conformance. Lab-wide corrective actions are handled through the ATS and ORPS Reporting. Departmental corrective actions are handled through our Tier I process documentation, and specific departmental tracking systems.

Records and Records Management (OHSAS 18001 Clause 4.5.3)

EENS OSH records are defined, inventoried, maintained and retained for as long as required as defined in the DOE Records Schedule for Environmental Records and in the Records Management Subject Area.

The ES&H Coordinator is responsible for the Tier I Inspection data. The Experimental Review Coordinator is responsible for the Experimental Safety Reviews.

Training records are located in the Brookhaven Training Management System.

Audits (OHSAS 18001 Clause 4.5.4)

The OSH Representatives are responsible for coordinating audits/assessments, reporting of results (to management via the Management Review) and follow-up.

Compliance (Tier I) Audits are conducted quarterly via the Department Tier I Inspections according the Environment, Safety, Health and Quality (Tier I) Subject Area. The findings are tracked and sent to the responsible individual/organization. The findings are reviewed at the following quarterly Tier I inspection for open items.

Line Management or the Operations staff may schedule additional, unplanned assessments if necessary.

4.6 Management Review (OHSAS 18001 Clause 4.6)

The Management Review will involve, at minimum, the EENS ALD and Department Chairs, the OSH Management Representative, and the Department ESH Coordinators. It will be coordinated and documented by the EENS OSH Representatives.