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Subject: OHSAS 18001 Management System Description	Approved by: (signature on file with OSH Rep)
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OHSAS 18001 Management System Description for the Environment and Life Sciences Directorate

Introduction

This purpose of this document is to define how the Environment and Life Sciences (ELS) Directorate executes and maintains an OHSAS 18001 Management System. Specifically, this information is complementary to the BNL [OHSAS 18001 Management Plan](#) and [OHSAS 18001 Program Subject Area](#) and provides details as to how various OHSAS requirements are specifically addressed in the ELS Directorate which consists of the Biology, Medical and Environmental Sciences Departments and the Computational Science Center. The Environmental Sciences Department is managed by the Global and Regional Solutions Directorate (GARS) Research Operations Office.

4.1 General Requirements (OHSAS 18001 Clauses 4 and 4.1)

BNL has established and maintained an [OHSAS 18001 Program Subject Area](#) at the institutional level that is part of the [Worker Safety and Health Management System](#), embedded within the BNL Management System approach. This document is used to implement the OSH 18001 program elements. 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 as all employees, users, collaborators, contractors, students, and visitors who conduct work in these areas. This work includes activities occurring under the management of the Biology and Medical Departments and Computational Science Center within buildings 421, 463, 490, 560, 901, and 906. Work performed within other Departments or Divisions by ELS personnel, or work performed in ELS buildings by personnel from other Departments or Divisions (such as Facilities and Operations) is not included in the scope of this OSH Management system. This OSH Management System does not cover work that is performed off-site.

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

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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 ELS Directorate adheres to this policy. The policy is on the BNL website and is communicated to employees and guests through Department Meetings, Directorate meetings, postings, emails and training.

4.3 Planning (OHSAS Clause 4.3)

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

The ELS 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
- [OHSAS 18001 Program](#) Subject Area
- [Work Planning and Control for Experiments and Operations](#) Subject Area
- [Environment, Safety, Health and Quality \(Tier I\) Inspections](#) Subject Area
- [Safety Analysis Documents](#)

The ELS implemented programs are:

- The Facility Use Agreements can be found on the [SBMS homepage](#). (maintained by F&O)
- Experimental Safety Review Documents (ESRs)
- Work Permits
- Facility Risk Assessments (Maintained by F&O)
- Job Risk Assessments
- Safety Analysis Documents and Supplemental Hazard Assessments (SADs, SHAs)

Legal and other Requirements (OHSAS Clause 4.3.2)

The procedure for identifying and accessing specific legal and other requirements relevant to OSH is defined in the [Requirements Management Subject Area](#) . The OSH Management Representative and ESH Coordinator, at minimum, are notified of changes in OSH relevant subject areas via the SBMS Change Notification feature. They determine how the change affects the Directorate, what needs to be implemented, and how the affected individuals are notified. If it requires a significant change in procedure the Department Chairs and/or ALD will be involved in the process.

Objectives (OHSAS 18001 Clause 4.3.3)

BNL has a Performance Evaluation and Measurement Plan (PEMP) , which clearly identify all objectives, targets and performance measures. The ELS Directorate establishes objectives and

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targets at the Directorate level that support the Laboratory's critical outcomes. They are incorporated into the [ELS Self Assessment Plan](#) (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 COPMPEMP, 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.

The ELS Directorate uses the PEMP along with input from the BNL OSH Management Representative and its own performance data to establish its objectives. The Directorate goals and objectives are in the [ELS Self-Assessment Plan](#). 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 Self-Assessment Program.

The main objectives for the ELS Directorate are defined in the [ELS Self-Assessment Plan](#) and are developed using the [OHSAS 18001 Program Subject Area](#). Self-assessment, Tier I inspection programs, and annual compliance audits are performance indicators for compliance. Improvement opportunities are typically identified during annual experimental safety review and the JRAs and FRAs, through routine work planning activities, Tier I inspections and communications with staff. The Experimental Safety Review Coordinator maintains tracking systems for OSH corrective actions and improvement opportunities that are identified during experimental review. The OSH Rep, ESH Coordinators and SHSD Rep work together to disposition corrective actions.

The ELS OSH Management Program will be reviewed annually via a management review. This is identified and tracked through the [Self-Assessment Plan](#). Management will concur with any mid-year changes. The OSH Rep will track progress and completion on all OSH performance measures and tasks identified in the Self-Assessment Plan via research operations support staff meetings (typically bimonthly meetings with). Mid-year changes may be required if a new activity is identified or circumstances change.

ELS has a responsibility to assist the Laboratory in achieving success on the PEMP. 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 [OHSAS 18001 Program Subject Area](#) provides the process and recommended tools to help ELS to achieve their objectives. Self-assessments, Tier 1 inspection programs, and annual compliance audits are mechanisms used to monitor and evaluate performance, including progress in meeting objectives. When new experiments or industrial processes are initiated or modified, Occupational

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Safety and Health hazards are analyzed for risks and if deemed significant, then methods to reduce the risks are incorporated.

The ELS OSH Management Program will be reviewed annually via a Management Review. The OSH Representative will track progress and completion on all performance measures and tasks.

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 R2A2 for all employees. The process for identifying employee roles, responsibilities, authorities, and accountability (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. 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 Department/Division's Worker Occupational Safety and Health Committees, 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.

Line Management is 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 for routine, non-experimental work, to the Work Control Coordinator as required by [Work Planning and Control For Experiments and Operations](#) Subject Area and R2A2s.

Specific OSH responsibilities are identified in the [Contact List](#). OSH Management Representatives are listed in the [SBMS Contact List](#). The responsibilities for OSH objectives are identified in the [Self-Assessment Plan](#).

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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 location assessments by using the [Training and Qualifications](#) Subject Area.

Work Specific training requirements are identified through experimental safety reviews, routine work planning and location assessments by using the [Job Hazard Training Assessment Tool](#) and documented on JTAs. Required BNL training and some Department Specific training is tracked through the Brookhaven Training Management System (BTMS). The Training Coordinator tracks required BNL and Department specific training. Supervisors ensure that their employees/collaborators training is complete before they can 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 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; consulted where there are any changes that affect workplace health and safety; and represented on health and safety matters by participation in Directorate or individual department meetings, and by participation in the work planning and control process.

ELS employees are informed of OSH issues through OSH training/briefings, distribution of OSH information bulletins, facility specific training, review of ESRs prior to starting work and the work permit system, department and the directorate websites, e-mails, memos and staff meetings

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.

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

Document control is implemented as per the requirements in the [Internal Controlled Documents Subject Area](#). Directorate level documentation (e.g. Self Assessment Plan, OHSAS Manual) is posted on the ELS website and contained in the ELS ESH Controlled Document Master List (attachment 1). They are reviewed as needed. The OSH Representative or appropriate departmental system owners approve them.

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Operational Control (OHSAS 18001 Clauses 4.3.1 and 4.4.6)

Each facility within the ELS has in place, with F&O, 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 departmental ESRs.

Establishing and implementing operational controls for activities is documented in the [“Work Planning and Control for Experiments and Operations”](#) Subject Area. Risk assessments on each activity are conducted following the [OHSAS 18001 Program Subject Area](#). In this context, risk 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 representative.

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. ELS follows the [Emergency Preparedness](#) Subject Area and [Stop Work Subject Area](#).

Each building has a Local Emergency Plan or applicable standard operating procedure using the [Emergency Preparedness](#) Subject Area. These plans are updated as required and in compliance with the BNL emergency procedures. The hazardous waste 90-Day areas in buildings 463, 490, and 901 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, as applicable, in these drills is mandatory for all employees, visitors and guests on site at the time.

4.5 Checking and Corrective Action (OHSAS Clause 4.5)

Performance Measurement and Monitoring (OHSAS 18001 Clause 4.5.1)

Calibration of OSH monitoring and measurement equipment will be conducted in conformance with the requirements in the [Calibration](#) subject area.

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Objectives and targets are documented and tracked via the Self-Assessment program. Compliance performance is monitored via targeted compliance assessments according to the requirements in the Department's Self Assessment Plan. Assessments include quarterly Tier I inspections, and targeted compliance assessments. The results of Tier I inspections are tracked internally by each department to closure. On a routine basis Tier 1 results are evaluated at the Laboratory level to assess overall performance. Performance against the objectives is reviewed annually via ELS Management Review.

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

ELS follows the [Events and Issues Subject Area](#) and applies a graded approach using the [Graded Approach for Quality Requirements Subject Area](#). The [OHSAS 18001 Program Subject Area](#) requires the OSH Management Representative 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)

ELSOOSH records are defined, inventoried, maintained and retained for as long as required as defined in the [Records Management Subject Area](#). A list of [ESH records](#) is maintained and includes the person responsible for the records.

Training records are located in the [Brookhaven Training Management System](#).

Audits (OHSAS 18001 Clause 4.5.4)

OSH system assessments are requested by the BNL OSH Management System Representative. Specific ELS assessments are included in [Self Assessment Plan](#). The OSH Representative is responsible for coordinating the assessment, 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 to the Environment, Safety, Health and Quality (Tier I) subject area. The findings are filed with the Tier I inspection results and sent to principal investigators and management. The findings are reviewed at the following quarterly Tier 1 inspection for open items.

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

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4.6 Management Review (OHSAS 18001 Clause 4.6)

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

Annually, the OSH Management Representative will schedule a review of the OSH Program with senior management. The agenda of the Management Reviews reflects the full scope of the presentation, which in this case includes OSH and EMS. This integrated Management Review is accomplished in accordance with the provisions of the [Environmental Assessments and ESH Management Review Subject Area](#).

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Change History:

Rev 0 6/11/06 original

Rev 1 10/6/06 Changes in Document Control, Emergency Preparedness and Performance measurement.

Rev 2 10/22/07 Re-signed, no changes

Rev 3 1/08/09 Changes in R2A2 (link to SBMS contacts), revised document/record list to include both environmental and OSH and detached from this manual, and updated some subject area links.

Rev 4 10/20/09 Changes in Directorate from LS to ELS and explanation that Environmental Sciences is covered by GARS Directorate.

Rev. 5 12/15/10 Changes include the addition of the Computational Science Center and new ALD.