

BROOKHAVEN NATIONAL LABORATORY Safety & Health Services Division	NUMBER IH93150
	REVISION Final Rev0
INDUSTRIAL HYGIENE GROUP Standard Operating Procedure	REV. DATE 07/14/05
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Subject: LASER Safety Program SHSD Industrial Hygiene Group Role	

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1.0 Purpose & Scope

Purpose: The purpose of this procedure is to define specific roles, responsibilities, authorities, and accountabilities of the SHSD IH group and its interaction with other BNL organizations in the development, implementation and coordination of an effective LASER Safety program.

This document describes program elements necessary for compliance with OSHA, ANSI, and DOE regulations.

Scope: This procedure defines the role of the IH Group in delivery of LASER Safety Program services. This document provides a very brief description of the service. Details of each of these elements is defined in detail in corresponding IH Group procedures in the series IH93.

2.0 Responsibilities

- 2.1 The BNL LASER Safety program is implemented through a matrixed organization of several BNL organization units. The SHSD portion of the program is implemented through the *SHSD LASER Safety Program Administrator*.

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2.2 The SHSD person assigned as the *SHSD LASER Safety Program Administrator* also serves at the *BNL LASER Safety Officer (LSO)* and the *SBMS LASER Safety Subject Matter Expert*. The *LSO* holds general responsibility to monitor the effectiveness of the BNL LASER Safety Program and lead the correction of deficiencies.

3.0 Definitions

LASER Safety Officer: A person, designated by the Industrial Hygiene Group Leader, to oversee compliance with the DOE Orders and OSHA regulations on the LASER Safety program for SHSD and BNL as a whole.

4.0 Prerequisites

none

5.0 Precautions

none

6.0 Procedure (Program Elements)

6.1 The IH Group serves in the following roles:

Primary Role(s)
Serve as LASER SAFETY Program Administration & SBMS Subject Matter Expert
Conduct periodic Regulatory Driver tracking
Perform periodic BNL Program Self Assessment
Prepare Standard Operating Procedures for Hazard Assessment & Exposure Monitoring
Conduct advanced (complex) LASER Safety Program surveys
Calibrate and Maintain Exposure Monitoring Equipment
Maintain a laser inventory database
Reviews or assists in developing training material
Perform Project Design Reviews for LASER Safety Program impact on workers

6.2 **Program Administration:** The IH Group Leader's shall designate a SHSD LASER Safety Officer. This role will be filled by a professional Industrial Hygienist with the

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IH Group who has sufficient knowledge of LASER hazards, BNL operations, and OSHA and DOE drivers on LASERS. This role is defined in IH93175.

- 6.3 **Regulatory Driver Tracking:** The LASER Safety Officer maintains mechanisms to track the status of DOE, OSHA, ANSI, NIOSH and ACGIH regulations and guidance to assess their impact on the BNL Program as per IH50700. The LSO initiates corrective action for any gaps in the BNL program resulting from changes in the reference and regulatory documents. Review of checks on the status of regulatory drivers will be formally documented.
- 6.4 **Periodic BNL Program Self-Assessment:** The LASER Safety Officer shall periodically review the BNL LASER Safety Program to assess compliance with regulatory drivers and determine the overall effectiveness of the program. The periodic evaluation shall occur at least once each year and shall ensure that all program aspects are conducted to meet the requirements in the OSHA, ANSI, and DOE drivers. The assessment is conducted and documented as per IH50510 and IH50520. Records of the assessment will be maintained as per the BNL Document and Records Management system.
- 6.5 **Preparation of Procedures for Hazard Assessment and Exposure Monitoring:** The IH Group develops and revises Standard Operating Procedures and Recordkeeping forms for internal use in LASER hazard assessments and exposure monitoring. These procedures are maintained on the SHSD IHG Internet website.
- 6.6 **Conduct advanced Laser surveys:** The IH Group maintains the expertise to conduct advanced complex Laser surveys. IH Group evaluations are made to analysis of potential employee exposure from BNL operations and obtain the data necessary for development of effective administrative and engineering controls.
- 6.7 **Investigate cases reported by OMC:** The IH Group conducts formal evaluations of workplace conditions to determine if occupational sources are contributory to injury/illnesses discovered by OMC. A formal report is prepared and provided to OMC, the Workers Compensation Administrator, line management, and the worker.
- 6.8 **Calibration and Maintenance of Exposure Monitoring Equipment:** The IH Group develops and revises Standard Operating Procedure for LASER power meters and dosimeters and maintains the equipment for use by qualified surveyors.

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Calibration of Portable test equipment used in this program will be calibrated on a basis established in IH51600.

- 6.9 **Project Design Review for LASER program impact on workers:** The IH Group participates in Project Design Reviews as requested by the SHSD Safety Engineering Group. The person performing the review will follow IH60700. The IH group shall review major construction and renovation projects and include an analysis of potential LASER exposures from the construction of and intended use of the project. Recommendations shall be made to correct LASER source(s) before construction activities are commenced.

7.0 Implementation & training

- 7.1 The IHG qualifies SHSD personal who perform the role of LSO. Qualification is conducted in accordance with the IH50300 Training & Qualification Program. The qualification criteria for IH Group personnel to perform as LSO are listed and documented in *IH92175 Attachment 9.1 IH Group Laser Safety Officer Qualification Form*.

8.0 References

- 8.1 BNL SBMS Subject Area *Laser Safety*
- 8.2 *29CFR1910.54 Nonionizing Radiation, 29CFR1910.97 OSHA Occupational Nonionizing Radiation Standard*
- 8.3 *DOE Order 440.1A*
- 8.4 *ANSI Z136.1 – 2000*

9.0 Attachments

none

The only official copy is on-line at the SHSD IH Group website.
 Before using a printed copy, verify that it is current by checking the document issue date on the website.

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10.0 Documentation

Document Development and Revision Control Tracking		
Prepared By: <i>(signature/date on file)</i> C. Weilandics 10/18/04 Certified Industrial Hygienist	Reviewed By / Date: <i>(signature/date on file)</i> R. Selvey 07/06/05 Certified Industrial Hygienist	Approved By / Date: <i>(signature/date on file)</i> R. Selvey 07/14/05 Industrial Hygienist Group Leader
ESH Coordinator/ Date: <i>none</i>	Work Coordinator/ Date: <i>none</i>	SHSD Manager / Date <i>none</i>
QA Representative / Date: <i>none</i>	Training Coordinator / Date: <i>none</i>	Filing Code: IH52.05
Facility Support Rep. / Date: <i>none</i>	Environ. Compliance Rep. / Date: <i>none</i>	Effective Date: 07/13/05
ISM Review - Hazard Categorization <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low/Skill of the craft	Validation: <input type="checkbox"/> Formal Walkthrough <input checked="" type="checkbox"/> Desk Top Review <input checked="" type="checkbox"/> SME Review Name / Date: C. Weilandics 7/15/05	IMPLEMENTATION: Training Completed: n/a Procedure posted on Web: 07/13/05 Hard Copy files updated: 07/13/05

Revision Log		
Purpose: <input type="checkbox"/> Temporary Change <input type="checkbox"/> Change in Scope <input type="checkbox"/> Periodic review <input type="checkbox"/> Clarify/enhance procedural controls		
Changed resulting from: <input type="checkbox"/> Environmental impacts <input type="checkbox"/> Federal, State and/or Local requirements <input type="checkbox"/> Corrective/preventive actions to non-conformances <input type="checkbox"/> none of the above		
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<i>(signature/date on file)</i> SME Reviewer/Date:	Reviewer/Date:	Reviewer/Date:
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