

NSLS FY 06 ESH Improvement Plan

This ESH improvement plan is established to define the principal targets and their associated actions that will be addressed during FY 2006. The purpose of this list is to provide focus for the most important issues in the year to improve the NSLS ESH Program. The following twelve items have been selected for FY 2006.

1. Characterize potential for lead exposure at the NSLS and revise policies and practices as needed

Background: Issues have been raised about the use of respirators and protective clothing during work involving the handling of lead brick and sheets at the NSLS. We will review our data and practices at the NSLS and other facilities and ensure that our current practices are adequately conservative to protect the health and safety of the NSLS staff and users. The following steps will be taken to address this issue:

- i. Meet with SHS personnel to discuss their view regarding lead handling and to get their input on a future course of action.
Responsibility: Ackerman
Complete by 10/1/05
Status: Closed
- ii. Determine a course of action for FY 06 regarding lead work handling practices and review and discuss with NSLS management.
Responsibility: Ackerman
Complete by 10/15/05
Status: Closed
- iii. Meet with NSLS staff to discuss lead handling issues and the background that has led to changes in current practice.
Responsibility: Ackerman
Complete by 11/1/05
Status: Closed
- iv. Modify the current NSLS guidance on lead handling to reflect the changes in BNL policy and any changes in NSLS practice.
Responsibility: Ackerman
Complete by 2/1/06
Status: open
- v. Define a program for characterization of potential lead contamination in working areas and implement for FY 06.
Responsibility: Ackerman
Complete by 2/1/06
Status: open

- vi. Review painting or encasing lead brick and sheet to reduce the potential for lead oxidation and issue report.
Responsibility: Ackerman
Complete by 3/1/06
Status: open
- vii. Issue report reviewing the results of the lead exposure characterization during FY 06 and recommend policy and practice changes that may be needed for FY 07.
Responsibility: Ackerman
Complete by 9/1/06
Status: open

2. Complete OHSAS 18001 program development and successfully pass registration audit

Background: OHSAS 18001 development began at the NSLS in February 2005. The registration audit by NSF will be conducted on November 14, 2005. The intent of this target is to define the remaining steps to complete program development and assign responsibility to ensure that the NSLS is prepared for the audit. The following steps will be taken:

- i. Complete revisions and updates to OHSAS Manual and maintain throughout the year.
Responsibility: Gmur
Complete by 11/1/05
Status: done
- ii. Monitor the status of employee and beam line staff participation in TQ-Safeaware training and take steps to ensure that training is completed.
Responsibility: Corwin
Complete by 11/1/05
Status: Closed
- iii. Monitor the status of R2A2 updates to incorporate OHSAS responsibilities and take steps to ensure that updates are completed.
Responsibility: Terrano
Complete by 11/1/05
Status: Closed
- iv. Implement a communication program with NSLS staff and users to review OHSAS issues one additional time prior to registration audit.
Responsibility: Casey
Complete by 11/10/05
Status: Closed

3. Prepare for the CY 07 DOE ISM assessment

Background: A comprehensive assessment of ISM implementation at BNL will be conducted by the DOE Office of Assessment in the first quarter of 2007. This assessment is very important - the intent of this target is to define the steps that will be taken to ensure that the NSLS is prepared for the assessment. The following actions will be taken:

- i. Prepare document that maps ISM Core Functions and Guiding Principles to programs in the organization
Responsibility: Ackerman
Complete by 2/17/06
Status: Open
- ii. Evaluate NSLS performance in each of the core functions and guiding principles

Responsibility: Ackerman
Complete by 3/17/06
Status: Open
- iii. Communicate ISM policies and provide training to NSLS staff and users regarding key ISM issues

Responsibility: Ackerman
Complete by 12/31/06
Status: Open

4. Complete second round of worker qualification program upgrades

Background: As a part of the corrective action plan for the X-1 electric shock incident, the NSLS worker qualification procedure was revised. In a series of meetings conducted last year with NSLS supervisors, work requiring formal qualification was identified and listed on qualification matrices established for all NSLS staff members. The status of the qualification matrices will be reviewed this year to determine if changes are needed and training activity forms will be prepared for all work listed on the qualification matrix. The following steps will be taken:

- i. Meet with supervisors and review status and use of qualification matrix.
Responsibility: Buckley
Complete by 3/15/06
Status: Open
- ii. Meet with supervisors to prepare and implement all required training activity forms
Responsibility: Buckley

Complete by 9/30/06
Status: Open

5. Ensure that hazardous equipment identification and practices are adequate and are maintained going forward for existing and new equipment

Background: In FY 05 a very significant effort was made to identify all hazardous equipment that required LOTO for maintenance. The purpose of this target is to assess the results of the effort and verify that the hazardous equipment is properly identified and that responsibilities have been properly assigned. We also will want to ensure that as new equipment is purchased or equipment is relocated or re-assigned that for equipment and responsible persons are properly identified. The following steps will be taken:

- i. Revise the NSLS ESH PRMs to ensure that requirements for hazardous equipment identification are incorporated into official NSLS policies.
Responsibility: Aloj
Complete by 3/1/06
Status: Open
- ii. Conduct assessments of selected NSLS facilities and beam lines and evaluate adequacy of program implementation.
Responsibility: Aloj
Complete by 3/15/06
Status: Open
- iii. Define and implement communication program to highlight hazardous equipment labeling and maintenance requirements and best implementation practices determined from assessments.
Responsibility: Aloj
Complete by 5/1/06
Status: Open

6. Fully implement NRTL inspection requirements for existing equipment and ensure implementation of NRTL requirements for purchased equipment.

Background: The Laboratory has determined that all electrical equipment in use at BNL must be rated and labeled by a Nationally Recognized Test Laboratory that the equipment is safe for intended use. Procurement requirements have been established to ensure that all new equipment has been labeled or has been determined by the BNL's Authority Having Jurisdiction to be safe for intended use, and an inspection program has been established to review all existing equipment within the next four years. The purpose of this target is to monitor progress in program implementation and to ensure a high level of awareness by

department staff and facility users of implementation practices. The following steps will be taken:

- i. Begin implementation of the NRTL inspection program for existing equipment by December 1, 2005. Quarterly reports will be provided of project status.
Responsibility: Johnson
Complete by 12/1/05
Status: Closed
- ii. Prepare a procedure describing procurement and inspection requirements for new equipment and distribute to all staff and users to ensure awareness and knowledge of requirements.
Responsibility: Aloï
Complete by 3/21/06
Status: Open
- iii. Conduct an audit on new equipment purchases made since 7/1/05 to determine if proper labeling have been provided.
Responsibility: Buckley
Complete by 3/01/06
Status: Open
- iv. Prepare and distribute results of the audit identified in iii. above and any lessons learned to NSLS staff and users to ensure awareness and knowledge of implementation issues and the means to address them.
Responsibility: Aloï/Buckley
Complete by 5/15/06
Status: Open

7. Review training program requirements for staff and users and implementation rates.

Background: The NSLS training program is well defined and has a very high compliance rate. The purpose of this review is to take a step back and look at additional information gathered from the worker qualification process and from employee/user feedback to determine if the current set of training requirements is appropriate and if the compliance rates are in fact acceptable. The following steps will be taken:

- i. Review the current set of JTAs in use at the NSLS to determine if consolidation or reduction is achievable.
Responsibility: Corwin
Complete by 3/1/06
Status: Open

- ii. Review the training requirements identified through development of the worker qualification matrix with each supervisor to determine if group JTAs are complete.
Responsibility: Corwin
Complete by 5/1/06
Status: Open
- iii. Evaluate the current set of JTAs applicable to beam line staff to determine if the JTAs are complete and appropriate.
Responsibility: Corwin
Complete by 7/1/06
Status: Open
- iv. Review compliance rates for users and determine if the current ~ 93% threshold is an acceptable value.
Responsibility: Corwin
Complete by 4/1/06
Status: Open

8. Complete SAD and ASE upgrade for NSLS

Background: The updated NSLS SAD has been under-development for several years and has not made substantial progress in the past 18 months because of higher priority issues. It is very important that the priority for this revision and for any modifications to the ASE is sustained in the first half of FY 06 and that approval from BNL and BHSO management be obtained prior to the beginning of the OA ISM assessment.

- i. Complete revisions to current draft and submit to NSLS ESH Committee for review.
Responsibility: Gmur
Due date: 11/23/05
Status: Closed
- ii. Following review by NSLS ESH committee, revise as needed and submit to the Laboratory ESH Committee

Responsibility: Gmur
Due date: 12/21/05
Status: Closed
- iii. Complete revisions as required by Lab ESH Committee and forward approved SAD and ASE to Deputy Director

Responsibility: Gmur
Due date: 2/15/06

Status: Open

9. Examine implications of the new Part 851 to NSLS ESH and operations programs and determine the correct course of action

Background: The Lab is required to submit an implementation plan for Part 851. This new law has significant implication to the ESH programs at the NSLS and the rest of the Lab. A series of self-assessments will be required to determine gaps in the current program which must be addressed prior to full implementation of the Part 851 requirements. This assessment and corrective action plan will be the responsibility of the Associate chair for ESH.

Responsibility: Casey

Due date: 12/31/06

Status: on-going

10. Review the issues associated with the ALS beam line shielding configuration problems and determine if the NSLS program requires changes

Background: Control of beam line shielding is a very important to the radiation control program at the NSLS. Recently at the ALS, a series of incidents occurred which suggested that there were major weaknesses in their configuration control program for beam line shielding. The report of the ALS problems will be reviewed to determine if there are any lessons learned that we could apply to improving our program.

Responsibility: Buckley

Due date: 12/31/06

Status: on-going

11. Continue evaluation of synthetic oils for application in vacuum pumps

Background: Generation of waste oils from vacuum pump maintenance is one of the larger waste streams at the NSLS. The purpose of this evaluation is to determine if use of synthetic vacuum pump oil will result in longer time between change out of oil and accordingly reduce the average volume of waste per year.

Responsibility: Foerster, Hu

Due date: 9/30/06

Status: on-going

12. Evaluate waste generation associated with maintenance of cooling water systems and determine if alternate processes or materials could reduce current waste streams.

Background: Generation of corrosive/toxic wastes associated with maintenance of cooling water systems is the largest waste stream at the NSLS. The current de-scaling agent used in maintenance processes is very low in pH and produces

acidic wastewaters, which must be handled as hazardous waste. In addition, the wastewater also contains high copper concentrations. Studies are being conducted to determine if neutralization and filtration would be cost-effective treatment to render the wastewaters sufficiently clean to eliminate the hazardous waste classification. An alternate de-scaler will also be evaluated to determine its effectiveness and whether its waste streams would also be considered hazardous waste.

Responsibility: Beauman, Bauer
Due date: 9/30/06
Status: on-going

13. Evaluate use of R-22 freons in NSLS chillers and determine if it is practical to replace the materials with alternative refrigerants.

Background: When released to the atmosphere, R-22 Freon contributes to ozone depletion. Its use is regulated by the Clean Air Act of 1990 and eventually all use of R-22 will be phased out. The intent of this target is to review the use of R-22 in NSLS systems and determine if it is practical to replace the material with alternative refrigerants.

Responsibility: Bauer
Due date: 8/30/06
Status: Open

14. Submit 2 proposals for pollution prevention projects:

- a. Replace RF ignitrons as a means to reduce mercury inventory at the NSLS.**
- b. Purchase a aerosol can popper as a means to reduce the volume of hazardous waste disposed of annually at the NSLS**

Background: Reduction of non-essential mercury is a high priority with BNL. In a review conducted last year within the department, an opportunity was identified to replace a piece of equipment (RF ignitrons) with more modern solid-state equipment. The aerosol can popper is a means of releasing and capturing the remaining liquid within aerosol cans, thereby permitting the emptied can to be recycled in the metals waste stream

Responsibility: Buda, Gmur, Aloi
Due date: 12/1/05
Status: Closed