SAFETY REPORT

Andrew Ackerman
ESH&Q Manager

Organization and Mission
The NSLS Environment, Safety, Health, and Quality Division is managed by Andrew Ackerman and includes contributions from a mixture of department and assigned Laboratory personnel. The group includes nine professional staff, two administrative assistants, and one technician whose combined efforts amount to about seven full-time equivalent positions. These personnel manage the various ESH, Quality Assurance, and Training issues presented by facility and experiment operations.

There is a continued emphasis on integration of ESH&Q principles into all work at BNL and the NSLS. Laboratory initiatives for 2006 included a focus on electrical safety, implementation of the DOE Integrated Safety Management (ISM) principles, assurance of worker qualification, and control of workplace injury. The NSLS ESH&Q Division is committed to advancing those programs and managing the risks presented to personnel and the environment in support of the department's scientific program.

2006 Activities
Everyone was busy in 2006 and there was considerable ESH&Q activity throughout the department. A few highlights pertinent to the user community are as follows:

- The NSLS completed independent registration with the Occupational Health and Safety Assessment Series (OHSAS) management system, an important goal for the Laboratory.

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- The definition of worker qualification through training and experience was advanced, allowing improved work planning and a better understanding of worker skills.
- Configuration control and equipment identification on the beamlines were improved with better checklists, labeling, and photographs.
- Inspection of electrical equipment for compliance with Nationally Recognized Testing Laboratory (NRTL) requirements was implemented for user equipment.
- Electrical safety and Lock Out/Tag Out (LOTO) training requirements were redefined for beamline staff, resulting in a lowered training burden and the assignment of courses that are most applicable to the work performed.
- Personnel lead exposure resulting from shielding movement was well characterized and shown to be low and controlled with existing practices.

Several performance measures are tracked to follow the effectiveness of the ESH&Q programs. Performance in 2006 was excellent.

- There were no "Days Away, Restricted, Transferred" (DART) cases during 2006 or 2005. That means no injuries or illnesses resulted in lost or restricted work time. There were some minor injuries, but nothing severe enough to require personnel to miss time at the Laboratory. The significance of this result is obvious to those who work at the NSLS and is an important parameter as these values are reported to and tracked carefully by the DOE as a key indicator of safety performance.
- There were two incidents that met the criteria for reporting within the Occurrence Reporting and Processing System (ORPS) – another parameter tracked closely by the DOE. One involved a chemical spill and the second a mistake in cutting an electrically energized wire. Neither resulted in injury or significant environmental insult. Both were carefully investigated and yielded some valuable lessons that were disseminated throughout the community.
- Training compliance was excellent and improved from last year.
- Routine workplace inspections yielded fewer findings per inspection and correction time was short.
- Numerous internal and external audits resulted in few findings, and the department response was timely and organized.

- Waste generation continues to be low and well managed. The department's mercury inventory has been significantly reduced through the replacement of mercury switches with solid-state devices and the elimination of mercury thermometer use. That effort resulted in some extra waste, but also virtually eliminated the risk of a significant environ mental mercury release and helped us meet an important DOE initiative.
- Radiation exposure remains very low; the measured collective dose this year was less than 50 mRem for some 3,000 personnel who were monitored.

There is more to report, but the summaries above provide an overall picture of the department's activity and performance in ESH&Q for 2006. The NSLS programs are acknowledged throughout the Laboratory and by the DOE area office as excellent and there is much reason for pride in staff and user attention to safety and in keeping the facility a safe place to work. Good performance indicators and well-managed programs are important, but what is most important is that we completed an enormous amount of science last year without significant injuries or environmental insults.

2007 ESH&Q Initiatives

All that was completed last year must continue, and we must seek to improve. A brief summary of three important initiatives for 2007 is as follows:

Integrated Safety Management (ISM)

The DOE Integrated Safety Management program is aimed at assuring that work is planned, risks are controlled, and personnel are qualified. These principles are well implemented at the NSLS. Worker qualification is assured through training and experience, and all work at the facility is planned with attention to scoping and evaluating tasks, identifying and implementing pertinent controls, and providing feedback mechanisms for improvement.

Evaluation of the program in 2006 confirmed that overall implementation is good and that improvement efforts should focus on enhancing feedback mechanisms and personnel awareness to the application of ISM. That has begun and will continue into the next year with an emphasis on completing "End of Run" forms to collect better feedback, and with continued discussion of the ISM principles to assure that everyone understands how they apply to work at the NSLS.

10 CFR Part 851

"10 CFR Part 851" refers to a section in the federal code rules that incorporates many ESH standards into federal law applicable to the DOE. The incorporated rules include OSHA requirements and various health and safety "consensus" standards that cover many topics including electrical, fire, laser, pressure, chemical, biological, and nano-material safety. Evaluation of this new rule has begun. It has uncovered areas where improvements can be made and will likely result in requirement changes for the upcoming year.

Event and Issues Management

It is valuable to investigate and understand minor occurrences and learn from them with the hope to avoid a more significant event. That is the basis for a renewed focus on event management and emphasis on reporting all occurrences and investigating even those that are minor. Everyone is asked to help identify issues and resolve concerns before they become troublesome by reporting unexpected occurrences to the NSLS Operations staff. The approach of finding leading indicators to more significant events will be emphasized next year.

Summary

A continued focus on ESH&Q has obvious importance to everyone. 2006 was a great year and everyone's involvement and commitment to safety is much appreciated. That success can continue in 2007 if we remain vigilant. There will be program challenges as we seek to meet new requirements and improve on the old. The ESH&Q Division will work to assure that changes fit NSLS operations and are well communicated. The focus for the New Year will be, as always, safe science. Help us achieve that by knowing requirements, continuing to generate great science, and assuring that all the work we do includes evaluation and control of risks.