



EH&S Reporting Activities for August 2003

- As of August 31st, Jefferson Lab had achieved [107](#) consecutive days without a lost-time injury. The Lab record is [455](#) consecutive days without a lost-time injury. There were two recordable injuries in August - a Physics Division staff member had a wrist injury on August 22nd in Hall B, and an Accelerator Division worker experienced a back injury on August 27th in the Test Lab.
- The Physics Division injury ended a period of slightly over three years with **NO** recordable injuries. This time period covered almost 1,000,000 work hours without a recordable injury to Physics Division staff. This notable accomplishment reflects effective work planning and safe work behaviors by the Physics Division.
- EH&S Reporting researched the treatment for an August injury that used a medical measure not on the OSHA "first aid" listing. A 2002 OSHA interpretation was noted that the medical measure, although not on the "first aid" listing, was equivalent to a first aid measure. This allowed the case to be classified as "first aid" and not as a recordable injury.
- The first acid was processed at the new neutralization system in Bldg. 31. EH&S Reporting provided the initial sampling results to HRSD that showed effective neutralization and removal of metals.
- **Occurrence Reporting**
 - A draft Final Report was prepared for the July 28th Test Lab 'near miss' event that involved inadvertent crane movement. Following management review, the Final Report was transmitted to the DOE occurrence reporting system (ORPS) network. The Final Report has received DOE approval.
 - An August JLab 'near miss' event was reported to the DOE ORPS as an "Off Normal" occurrence (the lowest of the three ORPS reporting levels). This event was an August 13th minor electrical shock to an Accelerator Div. Engineering Department technician from a vacuum cart in the beam switchyard. The event is being investigated by a team composed of line management, division EH&S staff, and electrical subject matter experts.
- **External Regulation**
 - Jefferson Lab safety and health regulatory compliance was reviewed by a Federal OSHA team during an August 11-15 visit. The visit was part of a congressionally mandated external regulation study of worker safety and health compliance at the ten Office of Science laboratories. JLab staff are currently developing resource estimates for the safety and health findings. The OSHA team visit did not note any imminent danger or willful violations.

- An OSHA team of physicians conducted an August 15th review of related health programs. The Administration Div. medical services function and the Office of Assessment injury recordkeeping program were specifically reviewed. No regulatory violations were noted during this review.
- Resource estimates from the July Nuclear Regulatory Commission (NRC) external regulation visit were completed and provided to the DOE. Major areas requiring resources were NRC license application and related documentation development, in addition to improvements to high radiation area access (due to differing definitions in NRC and DOE radiation regulations). The NRC team concluded that JLab's radiation control function would be "a model program" under NRC regulation.

➤ **Work Smart Standards (WSS) Set**

- Proposed 2002 changes to the WSS Set, including using current ANSI standards instead of versions from the 1960s are working their way through the change process.
- EH&S Reporting is working with the Policy and Manuals Group to ensure new or modified hazards or standards become addressed appropriately in the EH&S Manual.
- Updates of all WSS program EH&S Manual appendices were updated in August. Proposed changes to Ch. 2420 are being processed.

➤ **National Environmental Policy Act (NEPA)**

- EH&S Reporting provided summaries for the activities planned for inclusion in the proposed 16 GeV EA to Project Management staff for review. New projects may include another tech support building and a radioactive waste storage building.
- CEBAF and FEL Upgrade Environmental Assessment (EA)
 - Proposed Action/Project Information Checklists are being prepared. Draft summary information for all projects was prepared.
 - The 16 GeV and Hall D checklists have been started.
- EH&S Reporting is working with other laboratory staff to address other NEPA items, including actions related to the new CEBAF Center addition construction project.

Accelerator Division EH&S Highlights August 2003

FEL Experiment Uses Nitrous Oxide

The IH Group received a FEL Experiment Safety Approval Form (ESAF) for the experiment scheduled in Lab 6. Nitrous oxide will be used. Its decomposition products are nitrogen and oxygen. Nitrous oxide requires local exhaust ventilation, and Lab 6 is not equipped to provide this. The IH Group is coordinating with Facilities Management to provide the ventilation. The nitrous oxide inventory also must be controlled, so it will be shipped to the Safety Lab and kept under lock and key until the date of the experiment.

Acid Neutralization Upgrade Update

Use of magnesium hydroxide in the neutralization system has been abandoned as it produces too much sludge. We are back to using sodium hydroxide.

Dosimetry Results, 2nd Quarter

Second quarter dosimetry results indicate a need for a number of dose investigation reports, including a dose of 229 mrem to someone who does not work in RADCON or in a capacity that would have work in proximity to beam targets. Also under investigation is an unused temporary badge with a dose of 13 mrem.

Sealed Source Inventory Underway

The sealed source inventory began in August. At the end of the month, one unlocated source remained for reconciliation. Preliminary results of the inventory suggests a serious need for a paradigm shift in radioactive source control. Additionally, source custodians may need re-training on their responsibilities as indicated by the difficulties encountered with locating sources.

ODH Monitoring Updates

- South Access Stairwell was temporarily posted to ODH 2 during the last week of August due to bypassing of contiguous sensors. The higher rate of false trips is due to the cells reaching the end of their lifetime. Replacement for all units is planned during September 2003 shutdown.
- The Injector Group requested removal of current ODH system in the Injector Test Cave as there are no gas sources planned for the cave.
- The Safety Systems Group (SSG) Leader and Deputy met with Sierra Monitor representatives this month to discuss future hardware and software issues.
- SSG technicians installed conduits in several linac penetrations in anticipation of new ODH monitor electronics. Electronics will be upstairs while heads will be downstairs. This will allow calibration without opening up the machine.

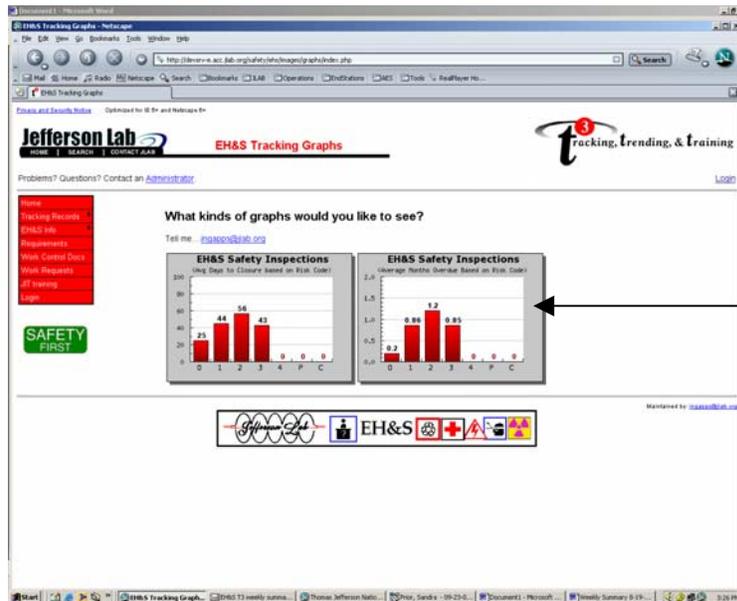
New Forklift for Accelerator Staff Use

The JLab Material Handling Safety Representative received and commissioned a new forklift during the latter half of the month.

Accelerator Division EH&S Highlights August 2003

EH&S Tracking System Updates

- Effective August 4, 2003, Version 2 of the EH&S Tracking System became the official operating version.
- An auto email notification function was initiated for newly added findings. Each evening a program is run to search for new records added within the lasted 24 hour period. Entries are sorted by Responsible Manager assignments and an email (batch email) is sent to each Responsible Manager with a list of links to findings assigned to him/her for corrective action.
- The “Area” table was updated so that location names follow a standard naming convention.
- Two new graphs were developed, one depicting the number of days items are overdue by risk category and one depicting the number of days items are overdue to closure by risk category. To view the graphs, click on “more” located under the Current Status graph on the tracking system Home Page.



- The Test Lab safety warden assignments were updated to reflect new information received from the Test Lab Facility Manager.

New Work Control Documents

- HPP-ENV-004 “Accelerator Tunnel Sump Pit Monitoring”
- ITS Laser Room LSOP - added Tiger laser
- Injector LSOP - added LOTO procedures and improved the schematics for the interlocks.
- Room 102 EEL - Helium 3 target placed back in service
- EES High Voltage SOP
- TOSP for lead work done in CNC to Support Hall B target

Accelerator Division EH&S Highlights August 2003

New Welding Machine Inspection Contract

A Blanket Purchase Agreement (BPA) for annual welding machine preventive maintenance and inspection is now in place. The vendor is ARCET and the SOTR is Sandy Prior, ext. 7591. Funding for the BPA is provided by the Accelerator and Physics Divisions' EH&S department/group. For more information, refer to EHSLOG 1168165.

Electrical Shock Notable Event – Vacuum Pump Cart

On Aug. 13, 2003, at approx. 0830, a worker received an minor electrical shock while working in the Beam Switchyard. The Division EH&S Officer assigned Ned Walker as the EH&S support liaison to the incident investigator. For further information, refer to EHSLOG 1167265.

Intermittent Problems with ARC Fume Hood Alarms

The hoods on the third floor of the ARC have been experiencing flow alarms. These alarms were real and were indicative of possible inadequate flow capacity of the fume hood fans for the building. Until the reason for the episodic low flows can be corrected, Jefferson Lab staff was instructed to discontinue use of hoods in these rooms. The R&D Chem Room in the Test Lab was designated as the alternate site for fume hood work. Facilities Management took the lead on resolving the problem. Point of contact for Accelerator Division is J.T. Kelley. Refer to EHSLOG 1164931.

EH&S Manual Activity

- Chapter 6761 ready for Level 3a review
- Chapter 6731 ready for level 3b review
- Technical Appendix 6210-T3 sent out for level 3a review. Based upon comments received, appendix author requested new author assignment given the technical complexity of the subject matter. A response to request made to the Electrical Safety Subcommittee (ESS) to serve as the new author is pending. The ESS is author of all other chapters/appendices in the 6200, Electrical Safety, series.
- Chapter 6720 is ready for level 3 review
- Chapter 6140 has been completely re-written and will soon be ready for Level 2 review
- EH&S Manual Revision 5.4 was approved by the Director's Council. Refer to EHSLOG 1170880 for further information.
- Appendix 2200-R1 Safety Warden list updated to reflect new Test Lab Safety Warden assignments

Unapproved Oxygen Setup in ARC Room 309

The IH Group provided follow up to an EH&S T3 finding regarding an overdue fume hood evaluation in ARC L309. During the hood evaluation, the IH Group discovered an oxygen service that was set up to an ozone generator. A hole had been cut into the ARC fume hood by Jlab staff to exhaust the process. In addition, the feed line was not compatible with oxygen service and no hazard assessment for ozone generation had been performed. Andrew Hutton issued a Stop Work. The IH Group re-inspected the fume hood after the setup was removed.

Accelerator Division EH&S Highlights August 2003

NRC Audit of Radiation Control Program

The RadCon Group completed a visit from NRC inspectors that was performed to aid in development of costs in transitioning from DOE to NRC regulation. Overall indication was that Jlab radiation safety program is on solid ground. Work is underway to formulate cost estimates for converting to NRC regulation. The Accelerator Division senior staff received a briefing and summary report from the RadCon Group Manager.

Follow-up to Test Lab Crane Incident

As a result of the Test Lab crane incident, the Material Handling Safety Representative (MHSR) authorized the purchase of two new controller systems for the Test Lab cranes. In addition, 22 staff received training on the safe use of the Test Lab overhead cranes.

EH&S Inspections Summary

- ❖ EH&S Scheduled Inspections (5)
 - Test Lab - Cryomodule Staging, Assembly & Testing (Rm 130-132): 1 finding remains open
 - Test Lab - Vacuum Furnace and Brazing (Rm 264 - 266): 7 of 7 findings remain open
 - EEL - Machine Shop: 4 of 4 findings remain open
 - Test Lab - Acid Storage (Bldg. 31): 1 of 4 findings remain open
 - Test Lab - Prod Chem (Rm 140 - 140A): 1 of 2 findings remain open
- ❖ OSHA Audit: 18 areas inspected with findings noted. Seventy-one of eighty-six findings remain open.
- ❖ EH&S Staff Observations (6)
- ❖ Worker Observations (1)

Conferences Attended

H. Robertson attended the International System Safety conference.

S. Prior & R. Gonzales attended the DOE Electrical Safety Committee Conference.