

Welding Machine Inventory

JLab established a new requirement in January 2002, for all welding machines to undergo an annual inspection. This requirement was one of the outcomes of a December 2001 welding electrical shock event. The Lab Director established a deadline of July 1, 2002, for completion of the initial inspection. Over the months of July and August, the Accelerator Division EH&S Department assisted the JLab Electrical Safety Subcommittee (ESS) follow-up efforts to determine the status of all welding machine inspections. We found that all but 14 machines had been inspected and inspection stickers applied. The 14 remaining machines fell into the following categories: 110VAC, stud welder, AC/DC Inverter, cold weld, and plasma arc welders. These machines were not known to the ESS at the time the inspection requirement was established, thus the inspection procedures did not address them. The ESS reviewed these machines and made the following recommendations: 1) Plasma Arc Welders must be inspected; 2) Stud Welders & Spot Welders need inspection by electricians on integrity of line cord ground connection to chassis; 3) Diesel Generator Welders require no inspection; 4) 110VAC Welding Machines (all types) should be checked for proper operation and case grounding; and, 5) Fine Wire Butt Welders require no inspection. Still needed is a determination on how the inventory and inspection follow up will be managed and who will own it for coordination purposes in subsequent, given this is a JLab cross-cutting requirement.

Test Lab Welding Event Investigation

A welding incident occurred on August 17, 2002, in which equipment was damaged because the welder bonded the work piece to the building ground but left the weld return connected to the nearby welding table. As a result, the ground path back to the TIG welding machine went to the building, through the breaker panel, and through an electrical outlet and the rotary table cord that was plugged into it. The insulating jackets on the rotary table cord and internal ground wire were not rated to handle the higher current so they melted, exposing bare wires within. Root cause of the event was that the work piece return cable was not connected to the work piece. The direct cause of this error was that the work piece return cable and the building ground cable were indistinguishable and the worker connected the wrong cable to the work piece. Contributing factors included worker confusion about the recent changes made to welding equipment grounding requirements and an insufficient standard operating procedure for the welding area. Five recommendations for corrective action were identified. Four of these are closed and the fifth one will be completed by mid-September (SOP revision). The EH&S Reporting Manager determined that this event was not reportable under either property damage or ORPS reporting criteria.

Scaffold Concern in Test Lab

A scaffold was set up in the walkway of the Test Lab High Bay. The job involved replacing clean room curtains with welding protective clean room curtains. The worker was not familiar with our EHS Manual Chapter 6132, *Ladders and Scaffolds*, which contains a requirement for all scaffolds to be inspected by an OSHA deemed competent person. As a result, this scaffold was not inspected before being put into service. Inspection of the scaffold noted the need for a toe board to keep the hand tools and rolls of curtains from rolling off or being knocked off and possibly hitting someone walking past the scaffold.

RadCon Biennial Peer Review

The RadCon Biennial peer review took place on August 26-28, 2002. This peer review is a required performance metric in the SURA contract with the DOE. The DRAFT report indicated that the RadCon Group's performance ranked as "Outstanding" with a numeric score of 88 out of 100 possible points. This adjectival rating was as high as possible, and the numeric score was the best of the last three reviews. Specifics will follow once the final report is received, which is expected sometime around mid-September.

VTA Activities

Dewar Monitoring: There is a new OSP for the VTA that instructs the operators to maintain any "problem" dewar (defined therein) in a cold state so that VTA personnel can reproduce the problem with RadCon staff presence. The VTA Facility Owner and Lead Maintenance Operator are the only two personnel who can authorize warming the dewars. Additionally, this new OPS officially invokes the RWP that gives specific instructions for doing radiological surveys when the exposure rate inside the dewar exceeds 5 R/h.

PSS Upgrade: EES group is working on status chassis. Started cabling between PSS and VTA control racks.

EPROMS in CEBAF CARMS

The operations staff requested the RadCon Group add a 30 second latch to the RADMON application to log all faults and alarm actions. This was done and placed in operation in August. However, the latching feature did not function as intended and caused 30 minutes of downtime. Troubleshooting activities revealed that the latching EPROMs for the accelerator CARMS latched as intended, but only the gamma channel cleared after the preset time. The neutron stayed latched until manually reset. The previous version of the firmware was reinstalled until the latching program can be revised. The software vendor is revising the programming at no additional charge.

RadWorker I (RWI) and GERT Training

Computer based training for RadWorker I (RWI) and GERT are now available at JLAB. These training modules will completely replace classroom training except for the exam and the practical training for RWI. The practical training will now only be required once, as long as the practical has occurred after August 15, 2000.

ODH System

Attempts to field test of EPICS serial interface with the ODH monitoring system found a firmware difference between ODH electronics units used for software development and the ones in the field. Those in the field do not have parity selection as a menu option. Changing the IOC parity is near impossible because it requires a new software kernel. The SSG contacted Sentry the end of August for assistance in resolving the problem.

Accident Data

Accelerator Division accident data was compiled for the departments' line self assessment period that ran from September 1, 2001 – August 31, 2002. The data breakdown follows: The 12 reportable accidents resulted in 207 restricted duty days. The Eng Dept accidents accounted for 83% (171 days) of the restricted duty days; FEL had 5% (10 days); Ops had 12% (25 days); and

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August 2002

Div Off had 0.5% (1 day). There were two accidents that had a total of 114 lost days associated with them. Of these lost duty days, 109 were from one Eng Dept injury, and 5 from one Ops Dept injury. Both of these accidents involved back injuries.

Vacuum Cart Electrical Safety

Several electrical safety issues regarding the portable vacuum cart were noted in August to include:

- 1) ion gauge insulation is pulled back exposing the wiring;
- 2) appears as if Scotch 33 electrical tape was used to insulate exposed wires.
Scotch 33 tape is only rated for up to 600 volt;
- 3) inadequate strain relief;
- 4) 120V solenoid: 3-prong plug used with a 2-wire setup;
- 5) the outer insulation is pulled back.

A recommendation was given to line management to institute a QA program for the electrical wiring on all of the vacuum carts.

Injector Test Cave

The shielding wall dividing the Injector Test Cave has been completed. The SOP for segmented operation using the low current injector was been revised and the TOSP for the newer high current injector is being developed. CARM installation is completed and shielding wall testing and certification is underway. Conditional approval for “North Side” operations has been given. The wall still needs to be checked out at gun current > 1 uA into the dump.

Heat Stress Monitoring

Heat Stress monitoring was conducted in the Cryogenics work areas and in the Test Lab Acid Transfer Building. Results indicate that safe levels have been exceeded this summer. Not a big surprise, but supervisors have been asked to notify the IH group when work is planned in excess of 30 minutes in areas that do not have air conditioning.

JLab RadCon Staff to Serve as DOELAP Assessor

Scott Schwahn has been selected by the DOELAP (Department of Energy Laboratory Accreditation Program) Board to serve as a DOELAP Assessor. Scott attended assessor training in Salt Lake City in August. Scott will travel to different DOE Labs and assess their external dosimetry programs as part of the DOELAP accreditation process.

Change to ODH Postings – Arc Service Buildings

All arc service building doors are now labeled ODH 1. In effort to reduce sign “noise”, no smoking signs have been removed from the doors.

FEL ARR Tracking

The EH&S T3 Group assisted the FEL staff with development of a tracking system to manage data on the FEL Accelerator Readiness Review (ARR) status. The FEL department head requested a beta version of this system by August 31, 2002. The EH&S T3 Group had the beta version completed and available to the FEL staff for testing by August 21, 2002. At the FEL customers’ request, query and report generation functions will be added during September. The FEL ARR tracking system can be viewed at: <http://devsrv-e.acc.jlab.org/safety/fel/index.php>

Ops Fire Review Team Convened

The Ops Fire Review Team has been chartered to:

- Identify any differences between fire response protocols used by the various accelerator site groups.
- Verify uniformity, or recommend changes to emergency fire response procedures for responding to an accelerator site fire alarm.
- Determine specific response criteria when responding to a fire alarm inside the accelerator site fence.

The team held its first meeting on August 2, 2002, to address issues concerning fire response/notification protocol for all accelerator site groups.

Congratulations to Steve Singleton and Jennifer Williams!!! They are both now Certified Hazardous Materials Managers (CHMM). This certification demonstrates that they have achieved a level of training that ensures competent oversight of shipping, storing and handling of hazardous materials here at Jlab. JLab now has a total of three CHMM certified EH&S staff.

MSA Recall on SCBA units

MSA issued a recall on their SCBA units due to an audible alarm bell screw failure. Customers reported that the bell screw can come loose and the alarm does not ring to alert the user when the compressed air cylinder is low. The alarm is normally set to sound at 500 psi. All of JLab's units were upgraded and tested the first week in August.

Annual Noise Monitoring Completed

Thanks to the IH Group's student, Jackie Roderick, for her assistance in performing noise dosimetry on all of our Jlab high noise workers. Under our hearing conservation program, all high noise areas are monitored annually, and all workers who have potential to be exposed to high noise wear a noise dosimeter for at least one 8 hour shift annually. For noise monitoring results, contact the IH Group.

New Work Control Documents

A-02-015-SOP	Operation of the 1 MW or 20 KW RF Test Stands for Producing RF in the CMTF and at the Coupler Conditioning Test Area
A-02-010-T	VTA Radiation Monitor Jumper
A-02-016-SOP	WR 975 Waveguide Installation Procedure
A-02-018-SOP	SNS Superconducting Cavity Fundamental Power Coupler Test Cart 1MW Operation
A-02-011-T	PSS Beam Current Monitor Jumper Installation
A-02-017-SOP	500 KV Gas Insulated Power Supply Maintenance & Safety
A-02-019-SOP	Injector Test Cave North polarized electron source

Annual Crane and Hoist Inspections Completed

The Material Handling Safety Representative (MHSR) completed all but two of the annual lab crane & hoist inspections by mid-August. The remaining two were the injector hatch crane, and the Hall "C" 20-ton crane which needed a wire rope replacement. Inspections on both of these were done by August 23, 2002.

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Accidents, Incidents, Near Misses and Occurrence Reporting Briefing

Eric Hanson provided a briefing on, “Accidents, Incidents, Near Misses and Occurrence Reporting”, to various Accelerator Division work groups. This Just-In-Time training package was developed as a coordinated Accelerator Division response to the Lab Director’s concern that accidents and incidents were not promptly reported through the required reporting channels.

Administration Division Notes for EH&S Committee
For meeting of 9/6/2002

Lockout/Tagout Incident in Test Lab

A follow-up message has been sent to all taggers and their supervisors advising them of the investigation outcome, recommendations, and resultant refinements to practices and training. (Copy attached)

Medical Services

Renovations in the VARC Building will result in some temporary changes in clinic offices. There will be signs on the clinic door directing visitors to the correct room(s).

Risk Management

HPR Visit

We have received the final report from Jim Stewart, fire protection consultant from Marsh, USA. Quite a few previous additional recommendations (items that do not have immediate implications for HPR status) were noted as corrected or closed. Some new ones were added. The overall HPR “score” remains unchanged. Copies of the report are being distributed to division EH&S officers and managers in Plant Engineering.

Travelers’ information

J. Kelly is collaborating with Carol Kinsey in the travel office on a pocket-size summary of “What-to-do-if...?” insurance-related information for Lab travelers. It addresses most contingencies related to auto collisions, injuries, and serious illnesses.

EH&S Training

Expired Training

The volume of automatic e-mail reminders on soon-to-expire (and expired) training has been growing steadily. They now exceed 800 per month total: for 60-day, 30-day, now expired notices combined. This feature only responds to ITP-required courses. One potential explanation for the increase is that some courses listed in ITPs don’t really need to be there – no longer required by job duties, for example. It can also mean that required training is out of date. Supervisors/Sponsors/SOTR’s may need some selective encouragement by EH&S staff to purge ITPs of non-required content. Bruce Ullman recently sent lists to each division EH&S officer of expired, ITP-required training for staff, subs, and users.

Safety Warden

J. Kelly was invited to speak at the most recent Accelerator Safety Warden meeting. The primary topic was OSHA enforcement implications for JLab, and safety wardens in particular.

Plant Engineering

Update on Failure of Rented Cooling Tower

An engineer with the rental equipment firm that provided the temporary ESR cooling tower determined that the fan disintegration was due to improper balancing of the fan blades.

VARC HVAC Replacement

Work continues in VARC to remove the existing mechanical systems and replace them with equipment that is more efficient. There are some temporary obstructions around the building exterior, and there are some temporary changes to the customary egress patterns.

CANS Modifications

- Building 12 - Reconfigure the front lobby doors card readers to release the magnetic locks on all four doors. Install motion sensors for Request to Exit (REX) on all lobby doors that will allow exiting during normal business hours without a card reader. ECD: 9/30/02.
 - Building 28 - Install motion sensors for Request to Exit (REX) on all lobby doors that will allow exiting during normal business hours without a card reader. ECD: 9/30/02.
 - ARC Building - Install motion sensors for Request to Exit (REX) on all lobby doors that will allow exiting during normal business hours without a card reader. ECD: 9/30/02.
 - Building 87 - Parts have been received to install CANS card readers at exterior doors and the interior parts cage. ECD: 9/4/02.
 - Building 90 - Machine Shop card readers and magnetic door locks to be installed on the exterior man door and the shop cage door. ECD: 9/16/02.
 - Building 58 - Card readers and magnetic door locks will be installed for the Production Chem Room, the R&D Chem Room, and the Acid Transfer Building. ECD: 9/16/02.
 - Experimental Halls - A CANS workstation will be installed and programmed to report the occupants of each experimental hall. ECD: 9/16/02.
- Project Managers (SOTR's): D. Kausch, M. Holub



EH&S Reporting Activities for **August 2002**

- Jefferson Lab had achieved [204](#) consecutive days without a lost-time injury until August 6, 2002. The Lab record is [455](#) consecutive days without a lost-time injury.

On August 6 and 8th, two Accelerator Division workers (one in the Engineering Dept. and the other in the Operations Dept.) suffered lost-time injuries in unrelated accidents. Both injuries had a related similar failure to follow JLab policies that may have contributed to each injury's severity. The workers either failed to report their work-related injury to Medical Services (the Operations Dept. staff member) or did not report a worsening condition to Medical Services (the Engineering Dept. staff member did not return to Medical Services until after four lost work days).

- The Office of Technical Performance was previously requested by the Director's Council to conduct an internal review of JLab implementation of our Integrated Safety Management System (ISMS) plan. The review included existing documentation, previously completed assessments, and interviews as appropriate. The final report was provided to the JLab Director in August for review.
- EH&S Reporting responded to an Office of Science (SC) request for infrastructure documentation of the CEBAF Center Addition (Phase 1). The SC request was for project description, cost, and schedule information using the Activity Data Sheet format of the DOE ES&H Management Plan. Although this SC requested information did not have any EH&S component, EH&S Reporting was pleased to support JLab Plant Engineering and budget staff.
- Revised wording was provided for JLab EH&S Manual Chapter 5300, Occurrence Reporting. The wording emphasizes the need for notification of the JLab Director through the line management chain in the event of a reportable or potentially reportable event.

Occurrence Reporting

- Event follow-up to the July 4th rented temporary cooling tower failure occurrence report event continued in August. A draft Final Report was generated and is under review.
- JLab was requested to informally review the draft report of the DOE Occurrence Reporting Re-Engineering Team. The draft report proposed a significant increase in potentially reportable events and conditions.

➤ **Work Smart Standards (WSS) Set**

- Proposed changes to the WSS Set are in various stages of review, including the proposed addition of a local terrorist response plan.
- 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.

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

- 16 GeV and FEL Upgrade Environmental Assessment (EA)
 - Proposed Action/Project Information Checklists are being prepared for inclusion in the shared folder.
 - The DOE Site Office is finalizing the draft charter.
- EH&S Reporting is working with other laboratory staff to address various actions that require NEPA review.
 - FEL – CRADA Actions
 - FEL – October Operations
 - Acid Storage Building Modifications
 - Chiller Plant Expansion (including at the Test Lab)

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MEMORANDUM

To: EH&S Committee
From: Tom Hassler
Subject: September 2002 Emergency Management Progress Report
Date: September 6, 2002

Off-site meetings and activities

The summer meeting of the Virginia Emergency Management Association (VEMA) was held on August 14-16 in Richmond. We had an outstanding set of speakers:

Former Lt. Gov. John Hager, Chair of the Virginia Secure Initiative
Doctor Lisa Kaplowitz, MD, Deputy Commissioner for Emergency Preparedness and Response, Virginia Department of Public Health
State Delegate John O'Bannon, Public Health Subpanel, House of Delegates
Mr. George Vradenburg, Co-Chair of the Potomac Conference Task Force on Emergency Preparedness for the Greater Washington Region.
Ms Charlotte Herbert Mears, Regional Director, FEMA Region III
Mr. Rich Hanson, Vice President AMTI [This company advises on making buildings more secure against terrorists]
Ms. Lori Hardin, Medicolegal Death Investigator, Office of the Chief Medical Examiner, Commonwealth of Virginia

The state HAZMAT conference is scheduled for September 26-28, 2002 in Virginia Beach. You can register at www.vdem.state.va.us, www.convplus.com, or 757-242-3692.

The next meeting of the Peninsula Local Emergency Planning Committee will be at the York County Public Safety Building at 310 Goodwin Neck Road at 9:30 A.M. on September 19, 2002. The public is invited.

On-site projects

- Hurricane checklists are being converted from Framemaker to MSWord, and the files are being sent electronically, as they are converted, to Ed Winslow and Dreamie Newsom.
- The EM Subcommittee sponsored a tabletop exercise for accelerator crew chiefs and operators on July 18, 2002. The draft report is on M drive in the "tabletop" folder and is being reviewed and corrected.
- The Emergency Readiness Assurance Plan for FY 2003-2007 is being drafted and is due to the site office by September 26, 2002.
- Mary Jo Bailey has agreed to take responsibility for keeping the Director's Command Staff checklists up to date.
- John Kelly has agreed to take responsibility for the Employee First Day Safety Card program and has some good ideas for improving the program.

Retirement

The plan is: My last day as a full time employee will be September 30, 2002, and I will become a casual employee on October 1, 2002.

Copies to: EM Subcommittee, K. Burrows, S. Suhring, E. Winslow.

**Physics Division
EH&S Activities
August, 2002**

In the MONTH - Installation of new and the maintenance of existing experimental equipment in the three experimental halls was a major division priority.

REVIEWS - An EH&S Review of Hall C Experiment E00-006 / G0 was held August 14. Membership of the Committee included: Chairperson George Dodson of ORNL (Magnet), from JLab: Jian-Ping Chen (Target), Bert Manzlak (Safety), Elton Smith (Detectors), Mike Spata (Beamline) and Bill Vulcan (Electrical).

A Septum Magnet Safety Review for upcoming experiments in Hall A was held August 21-22. Membership of the Committee included: Chairperson Bill Schneider formerly of JLab, Steve Williamson of the University of Illinois (Controls and Instrumentation), from JLab: Bill Merz (Power, Quench Protection and Electrical Engineering), Dave Kashy (Mechanical Engineering and Cryogenics) and Bert Manzlak (Safety).

CY 2002 - Four formal EH&S Reviews.

INSPECTIONS - Six scheduled "OSHA-type" formal inspections. The inspections identified 22 recordable action items. Since observed 13 have been closed and nine remain open. Supporting division EH&S on several of the inspections were: Barbara Morgan, the DOE CSO EH&S and Security Manager, Carter Ficklen, the OTP EH&S Reporting Manager, Smitty Chandler, the JLab Medical Director, and Heather Singleton, a JLab Medical Services Nurse.

CY 2002 – Forty-five formal inspections with 116 recorded action items, 97 closed / 19 open.

WORK CONTROL DOCUMENTS - Two temporary operational safety procedures related to G0 installation activities in Hall C were prepared. Both activities were successfully completed.

CY 2002 – Eighteen work control documents: Fifteen Temporary Operational Safety Procedures, two Operational Safety Procedures, and a Standard Operations Procedure. To date, 14 work control documented activities completed successfully.

Open Work Control Documents 2000 - 2002:

<i>Type</i>	<i>Number</i>	<i>Issued</i>	<i>Expiration</i>	<i>Group</i>	<i>Title</i>
OSP	PHY-00-002	04-21-00	04-21-03	Hall B	CLAS Cryotarget
OSP	PHY-00-003	08-31-00	08-31-03	Hall B	Polarized Target
OSP	PHY-01-001	01-05-01	01-05-03	Hall C	Cable Shaft
OSP	PHY-02-001	03-24-02	03-24-05	Hall C	Hall C Pivot Access Rules
OSP	PHY-02-002	04-22-02	04-24-05	Hall C	ODH Hall C Tunnel
TOSP	PHY-02-012	06-27-02	09-27-02	Hall B	PrimEx HyCal Test Run
TOSP	PHY-02-013	07-10-02	10-09-02	Hall C	Cool Down G0 Magnet
SOP	SOP-02-001	07-18-02	07-18-05	Hall A	Hall A Welding Area

On the HORIZON

Experiments:

<i>Area</i>	<i>Experiment Number</i>	<i>Scheduled Start Date</i>
Hall A	Installation E00-007	September 20
	E00-107	September 20
	E01-020	October 18
Hall B	Maintenance g7	September 20
Hall C	Installation G0 Commissioning	October 18

Scheduled EH&S Reviews:

<i>Group</i>	<i>Experiment</i>	<i>Topic</i>	<i>Date</i>	<i>Chairperson / Institution</i>
Hall C	E00-006	G0 EH&S	September 19	G. Dodson ORNL