



Materials Sciences Division Safety Committee Meeting

October 30, 2012



Opening Remarks

Jeff Neaton
Division Director

Nick Everson
Deputy Director for Operations

Agenda



- **MSD Safety Committee Membership**
- **Introductions**
- **News from the Safety Advisory Committee**
- **Incidents**
- **Injuries**
- **Issues**

MSD Safety Committee Membership & Liaisons



Chair:
Rick Kelly

Building/Operations Managers:
Gilbert Torres (2, 62, 66, 67, 976), John Turner (72),
Oliver Gessler (2, shared with Gil Torres)
Kristin Estis (976 (JCAP) Operations Manager)

MSD Support:
Erik Anderson, MSD rep on Lab Safety Advisory Committee (SAC)
[Phil Peabody](#), Electrical Repairs

Ed Wong, MSD Shop
James Wu, Materials Fabrication
Susan Waters, EHS Admin

MSD EH&S Technician:
Paul Johnson
Carleton Falzone, Foundry

EH&S Associates:
Larry Mclouth, Liaison to MSD
[Bob Fairchild](#), Laser Safety Officer

DOE Site Office Observer: Julie Henderson Drotz

Each LBNL-based research group in MSD, including each program in the Molecular Foundry, will designate a primary and backup representative to serve on the Safety Committee

Ager	Esther Alarcon Llado
Bourret	Edith Bourret
CXRO	Weilun Chao
Dubon	Joseph Wofford
Dynes	Steve Wu
Fadley	Alexander Gray
Foundry User Program	David Bunzow
Foundry/Urban	Tracy Mattox
Foundry/Zuckermann	Michael Connolly
Foundry/Cabrini	Bruce Harteneck
Foundry/Svec	Biwu Ma
Foundry/Neaton	David Prendergast
Foundry/Schuck	Paul Ashby
Haller/EMAT	Jeff Beeman
Javey	Kunihara Takei
Kaindl	Yiming Xu/He Wang
Lanzara	Kenneth Gotlieb
Liliental-Weber	Zuzanna Liliental
NCEM	Doreen Ah Tye
Orenstein	James Hinton
Ritchie	E. Zimmerman/ B. Gludovatz
Salmeron	Xiaofeng Feng
Schoenlein	Yi Zhu
Somorjai	Chris Thompson
Tomsia	Grace Lau
Yaghi	Felipe Gándara
Zhang	Sui Yang
Zheng	Haimei Zheng
MSD Business Office	Kyle Davis

New Electronics Technician, Phil Peabody



Phil Peabody has taken the place of Jim Severns

- **Splitting his time between CXRO and rest of MSD**
- **Is available to diagnose, test and repair electronics as well as build new devices**
- **Will also perform electrical safety inspections and then can repair equipment that fails the inspection (starting about December)**
- **Shop is behind the machine shop in the B 62 highbay**
- **486-6058 PPeabody@lbl.gov**

Functions and Key Activities of the MSD Safety Committee



Functions of safety committee and representatives

- Represent all research groups within MSD at LBNL
- Stimulate leadership and staff participation in safety program
- Advise Division management and EH&S on safety and health matters
- Perform essential monitoring, educational, investigative and evaluative tasks
- Serve as contact point for EH&S matters in each research group
- Serve as conduit for bringing EH&S information back to research groups

Key Activities

- Recommend changes to existing safety rules or the development of new rules
- Recommend improvements in hazard identification and control measures
- Report and discuss unsafe conditions
- Review accidents, incidents and close calls in MSD
- Disseminate EH&S information at group or lab meetings
- Document inspections, investigations, meetings and other EH&S actions at the group level



News from the Safety Advisory Committee

Erik Anderson



Incidents

Electrical Incident at JCAP



Incident

- **Post Doc removed the cover on evaporator to clean up a spill**
- **Did not unplug tool**
- **Working near conductors energized at 220 VAC**

Investigation Findings

- **LBNL general electrical safety class (EHS260) is not well tailored for laboratory research scientists**
- **Old equipment often lacks high voltage warning labels**
- **On the job training did not address this issue of electrical safety**
- **Tool was acquired by donation without going through the LBNL review process**

Emptying of LN Tanks at JCAP and Foundry



Incident

- On separate dates, the LN tanks at JCAP and the Foundry ran dry
- This results in loss of cover gas to gloveboxes used for pyrophoric materials, some boxes leaked oxygen
- Potential for fire

Investigation Findings

- Nitrogen gloveboxes are not equipped with backup supplies of cover gas--no LBNL policy in this regard
- System to detect and notify MSD and vendor in the event of falling LN levels was never installed at the Foundry
- System to detect and notify vendor of falling levels of LN at JCAP worked but vendor failed to respond

Improper Sink Disposal in Foundry Nanofab



Incident

- **An unidentified user poured (or dropped) copper etchant into solvent sink, did not notify Foundry managers**
- **The drain was clogged, and somebody added 15 liters of water to the sink with the spilled etchant**
- **Label on drain stated that the sink was attached to the Nanofab waste neutralization facility**
- **Waste neutralization system and attached sinks were shut down pending the results of sample analysis**

Investigation Findings

- **The concentrations of metals in the the liquid in the sink were within permit conditions**
- **The sink was not in fact connected to the neutralization system, but at least one sink is inappropriately attached**
- **Initial emergency response was incorrect**



Injuries

Injury: Ozone Exposure at ALS



Incident

- **MSD guest working at ALS was exposed to ozone, resulting in minor injury**

Investigation Findings

- **User had altered the experimental system in a way that the ALS had not anticipated, resulting in a high flux of lower energy photons that created ozone**
- **The ozone mitigation system in use at this station was not effective and will be redesigned**

Other Injuries



- **Trip resulting in injured ankle**
- **Chemical transferred to eye**
- **Ergonomic issue**
- **Laceration**



Issues

Syringe Safety



- **MSD has 1-3 needle stick injuries per year**
- **Many injuries happen during capping/uncapping**
- **Trying out this tool: <http://www.youtube.com/watch?v=C16xbYd3J0U>**

New Policy on Use of LN



- **When pouring < 5 liters of nonpressurized LN you are no longer required to wear gloves**
- **Does not apply where pressurized LN is used**
- **Must still wear eye protection or face protection (if pouring overhead)**

Waste Management Problems



Unofficial inspections by Paul Johnson indicate that many MSD folks are not effectively managing their waste

- **labeling errors**
- **container errors**
- **co-storage with non-waste**
- **outdated SAA signs**
- **waste stored too long**

Storage of HF in glass bottle in Nanofab

Donated Equipment/Used Equipment



- All equipment that is donated to LBNL must go through a specific donation review process run by the Office of Sponsored Projects and Industrial Partnerships--Contact Sally Nasman
- All used or borrowed equipment must be evaluated for safety--Contact Paul Johnson or Carleton Falzone (Foundry)

Electrical Equipment Identification



- **MSD has inventoried most of its electrical equipment, putting it in the cue for safety inspection**
- **However, there are likely hundreds of un-inventoried pieces of equipment still in our labs or storage areas**
- **If the equipment is inventoried by the end of the fiscal year (Sept. 30, 2013), the institution will pay for the required inspection**
- **If the equipment is not in inventory by the end of the FY, your lab will be charged \$300 to inspect each piece of equipment**
- **New purchases of unapproved equipment will also incur a \$300 (and up) charge**

Make sure that your equipment is fully inventoried!

Focus Groups for Safety



Focus Groups

- **Students**
- **Post Docs**
- **Non-PI staff**

General Topics of Focus group meetings:

- **To what extent does your organization recognize safety achievement and celebrate good safety performance?**
- **To what extent do you feel empowered and expected to take action to prevent injuries and ensure the safety of yourself and others?**

Common Threads (See handout)

MSD Self Assessment Ideas for 2013



- **Energy Conservation and Recycling**: Survey Division to identify ideas for improving energy conservation and recycling activities in the Division. Pick one or more ideas and implement them.
- **On the Job Training**: Review implementation of OJT in MSD labs, with special emphasis on safety training
- **Other ideas??**

Around the Table



Please bring up any safety issues or questions for
group discussion



Thank you