

# **AD Safety Week Meeting**

December 17, 2004

# AD Organization

- Effectively the AD is made up of three semi-autonomous groups:
  - Machine Physicists (MP),
  - Magnet Measurement Lab (MML),
  - Source Development Lab (SDL).

Of course, there is coupling between the groups, but there are distinct “core functions and staff” which delineate three clearly identifiable groups.

# Safety Culture

- The overall safety culture for the AD is set by the BNL requirements & is communicated to the staff through BNL training modules, review of staff JTAs and divisional / departmental meetings. Each of the three groups has their own periodic “group operational meetings” which include varying amounts of emphasis on safety based on the frequency of encounters with potential hazards:
  - MP: Weekly machine studies meetings,
  - MML: Twice monthly MML meetings,
  - SDL: Weekly SDL meetings.

# Work Control Coordinators

- The AD has four work control coordinators to insure safe practices are followed by the AD staff including technicians, engineers and scientists:
  - David Harder: MML facility
  - Stephen Kramer: NSLS Storage Rings
  - Jim Rose: NSLS Injection System
  - Pooran Singh: SDL facility

# MML Status

- The Magnetic Measurement Lab has both ongoing R&D projects and routine magnetic measurement tasks. An example of an ongoing project is a state-of-the-art cryogenic magnetic measurement facility, now nearing completion, for magnetic and thermal measurement of superconducting undulator models. MML staff routinely constructs permanent magnet undulators, perform magnetic measurements on these devices using several techniques on different measurement benches, and optimize their performance by various shimming methods. MML also performs routine QA, magnetic and survey calibrations on incoming magnets, including electromagnets, for SDL and NSLS. Each project or measurement task undergoes Work Planning to ensure personnel, equipment and environmental safety. MML staff maintains up-to-date training, including Electrical, Lockout/tagout, crane, ladder and cryogenic safety and Static Magnetic Fields. The Head of MML conducts staff safety meetings, on average twice monthly, and whenever ES&H bulletins are received. The lab has maintained an excellent safety record

# SDL Status

- Since June 2004 the SDL facility has been shutdown to upgrade the energy of the linac to 300 MeV.
- The SAD was revised and reviewed to cover the change in performance.
- The ARR process is nearly completed.
- As such the SDL facility has successfully undergone a very extensive series of safety reviews within the last 12 months.
- The SDL has a posted “safety chain of command” so that all staff and visitors know who to contact to obtain additional safety info or in the event of an accident.
- The lab has maintained an excellent safety record.



# Potential Hazards

Potential Hazards	MP	MML	SDL
High Voltage/Current	Occasionally	Occasionally	Often
High Power RF	Occasionally	Rarely	Often
Static Magnetic Fields	Rarely	Often	Occasionally
Crane Lifts	Rarely	Occasionally	Often
Cryogenics/Compressed Gas	Rarely	Occasionally	Often
Lasers	Rarely	Rarely	Often
Radiation	Occasionally	Rarely	Rarely
Height/Ladders	Often	Often	Often
Chemicals	Rarely	Occasionally	Occasionally

# Inexperienced Personnel Related Vulnerabilities

- In addition to hazards mentioned above there are potential vulnerabilities related to the presence of outside users / collaborators and postdocs/students who have had less experience with the BNL safety culture.

# Inexperienced Personnel

Potential Vulnerabilities	MP	MML	SDL
Outside Users	Rarely	Rarely	Often
Outside Collaborators	Occasionally	Occasionally	Often
Postdocs/Students	Occasionally	Often	Often

# Inexperienced Personnel

- To minimize these potential vulnerabilities:
- The AD staff is vigilant in making sure all training is completed by these individuals.
- At the SDL we have implemented the “BLOSA procedure” to further insure safe operating practices by NSLS staff and outside users/collaborators.
- The SDL also has “site specific training” that must be completed to permit unescorted access and the film badge requirement is strictly enforced.
- For postdocs and students we make sure that there is someone on the AD staff to “watch over” these less experienced individuals as they engage in work which exposes them to potential hazards until they gain sufficient experience.
- We encourage the outside users and collaborators to attend our frequent “group operational meetings”.

# Everyone Has a Leadership Role in Safety

- You are Responsible for Your Own Safety AND for the Safety of Your Co-workers
  - Comply with all requirements for work
  - Don't proceed with work if conditions are different than expected or if you have questions regarding safety
  - Report injuries, hazards and near-misses, so we can learn and improve
  - Identify and control hazards and suggest ways to reduce risks
    - Talk to your supervisor or others in your management chain
    - Talk to members of the ESH Staff or the ESH Improvement Committee
    - Anonymous Outlet Available: ext. 8800
  - Praise safe behavior
  - Take ownership when you see unsafe acts and stop at-risk behavior - we are in this together

# The Key Elements of Our Safety Program

- Awareness, involvement, commitment of all personnel – safety is everyone's responsibility
- Proper training and qualification
- Well defined and understood safety requirements
- Work planning to ensure identification and control of hazards
- Work performed in accordance with planning and other BNL requirements established in training

# Key elements of our safety program (cont.)

- Review of additions & changes within the facility
- Review of procurements and equipment designs
- On-going identification and elimination of unsafe conditions or acts (e.g. Tier 1, self-assessments, BNL or DOE reviews, lessons-learned)
- Feedback to improve work and safety performance

# Important Messages That You Should Understand and Practice During Your Daily Work

- We have very high expectations for performance
- Getting the job done safely is our highest priority
- Rules are not discretionary, but remember that good judgment is always needed
- Take a time out and reconsider if conditions aren't as expected
- If you have doubts, pull back and get help
- Everyone has a part to play – watch out for the other guy
- Life is too short to take unnecessary risks