CHEMICAL AND MISCELLANEOUS ASPECTS

Research Administrator Training
Stumbling Block #1

• Research Administrators sometime assume the researchers…
  • Know all their regulatory requirements
  • Obey them…
• (Psst!) They don’t.
Stumbling Block #2

- Thinking that because your department does not have chemical laboratories that chemical issues need not be considered. You also need to consider:
  - Compressed gases
  - Laser and laser cutters
  - 3D printing
  - Soldering
  - Cleaning or sterilizing materials
  - Paints (including spray paints)
Approvals are the Key

• Somewhere in the process of producing a proper protocol, people need to approve many things:
  • Compliance with applicable safety regulations
  • Compliance with applicable environmental regulations
  • Compliance with University requirements
• Of course, these are requirements in any day-to-day activity as well
Departments of Concern

- Laboratory Areas:
  - Chemistry
  - Physics
  - Biology
  - Chemical Engineering
  - Mechanical Engineering
  - Materials Science & Eng.
  - Civil and Environmental
  - Computer and Elect. Engineering

- Non-lab areas
  - Art
  - Drama
  - Architecture
  - Design
  - Robotics
  - Computer Science
  - Psychology
  - More!
Chemical Use Requirements

• **Training** of all applicable personnel
  • Lab Safety
  • Hazard Communication (non-lab chemical use)
  • Hazardous Waste Generation
  • Fire Extinguisher Use and Fire Safety
  • Lasers
  • Shipping/Receiving of Hazardous Items
  • Hand and power tools
  • Driving (What? Driving?)
Training

- **OSHA** requires training for all employees in designated roles:
  - Chemical use, chemical exposure, protective equipment
  - Physical safety, ladders, confined spaces, electricity, equipment use
- **EPA** requires training for all persons who produce hazardous waste, including things you might not think of as hazardous…
Training

- **DOT** requires training for all persons involved in the transportation of hazardous materials:
  - Shipping (including dry ice, lithium batteries, etc.)
  - Transporting hazardous materials
  - Receiving

- **Carnegie Mellon** requires training:
  - Driving university vehicles
  - Purchasing hazardous materials on P-card
  - Use of ChemTracker inventory system
Regarding safety…

- Although OSHA addresses *employees* only, it is the policy of EH&S to apply the same requirements to students (who are technically not covered under OSHA)
- EPA, DOT and other regulatory agencies do not differentiate between employees and non-employees
Where to Get the Training

- EH&S provides (or arranges) for MOST of this
- Go to the EH&S web page to enroll
- Many courses are on-line, other need to be requested
- Researchers ALSO need to training their people in area-specific tasks
Approvals

- Given how one activity impacts another here at the university…
- And given how grant funders insist on certain things…
  - Approvals are needed throughout much of your administrative processes!
University Approvals

- EHS needs to approve the use of certain materials:
  - “terrorism” or “drug enforcement” chemicals
  - High hazard items, explosives, deadly gases, etc.

- EH&S, FMS, Student Affairs all need to approve projects or activities on university property and grounds
  - Mostly on the criteria of safety to persons or property
Agency Approvals

- Governmental funding is usually tied to special requirements and approvals
  - Department of Defense
  - Department of Energy
  - Armed Forces

- Overseas funders
  - Many have European Union or other safety or environmental, quality or other requirements or certifications.
Sign offs

- EH&S is often required to sign-off that these requirements are being met
- We need certification that they are, from the PI or lead researcher
- We also may need to prepare special plans or submittals which take time to prepare
- PLEASE DON’T WAIT UNTIL THE LAST MINUTE FOR THESE!!!
Facility Issues

• It is important to understand that much of the research we do needs to be done in spaces equipped and approved for the work.

• CDFD, FMS and EH&S all need to be involved in creating and approving a space for research work.

• In addition to the requirements for biological and radiological safety, there are requirements for safe chemical and miscellaneous material use.
Facility Issues

• All areas must have a complete and accurate inventory of hazardous materials:
  • An OSHA requirement
  • A Building Code requirement
  • Available in ChemTracker, the university inventory system

• Areas must be outfitted with proper features
  • Ventilation, safety equipment, proper storage
  • Emergency response equipment, aisle width, exits
EH&S View

• We will try our best to allow any activity requested for research to be done, except if
  • It is illegal
  • It cannot be done safely