

**UAB Occupational Health & Safety**  
**❖ Annual Report**  
**January 1, 2013 – December 31, 2013**

**HIGHLIGHTS OF THE YEAR**

- Chemical Inventory Program Rollout
  - The IMS database has been expanded to include detailed chemical information on 6,781 chemicals, including the CFATS list and the most common flammable, reactive and highly toxic materials used in typical research laboratories. Select Agents and Select Agent Toxins will be managed in a secure database separate from other materials.
  - A web interface with barcode entry capability has been developed and beta-tested. The interface allows both OH&S staff and laboratory personnel to enter materials into the inventory database. Access to information is managed so that laboratory personnel may only view or modify records belonging to the lab or labs where they work. OH&S personnel have the ability to view all records.
  - 20,000 preprinted barcode labels have been ordered. These will be used to label containers in the Chemistry Department stockroom. A barcode label printer with software has been purchased to generate labels in-house. This will reduce costs, eliminate the 10 day waiting time for preprinted labels and allow flexibility in label size for the smaller containers used for many chemicals.
  - The Research Health and Safety Coordinator position has been filled. This person manages the inventory system and acts as primary contact for Safety Data Sheet information. The Coordinator has met with the stockroom manager in Chemistry to schedule their initial inventory.
  - OH&S has set up a contract with ChemWatch to provide Safety Data Sheet access to all campus and Health System locations. This service also provides the technical chemical information that is used in the IMS chemical information table.
  
- Cyclotron Facility

September 18, 2013, UAB received the official notice of registration for the Canadian built Advanced Cyclotron Systems TR-24 MeV Cyclotron.

With the TR-24 MeV Cyclotron being approved for start-up testing, the following areas within and adjacent to the Advanced Imaging Facility (AIF), were tested for leakage of neutron and gamma radiations by the UAB Radiation Safety Program during the month of December:

- The actual vault, the two target rooms, the nuclear pharmacy, cyclotron control room, mechanical space, hot cell and QC rooms, all located in the basement of Wallace-Tumor Institute (WTI)
  - Areas most likely affected by leakage radiation on the first floor of WTI
  - Outside perimeter of WTI along 6<sup>th</sup> Ave S and 19<sup>th</sup> St South
- Laser Program

In support of building a comprehensive UAB Laser and Non-Ionizing Radiation Safety Program, UAB research and medical have been asked to submit an inventory of all laser-producing equipment.

- X-Ray producing machines: 118
  - Lasers (3B and above): 5
  - UV (Ultraviolet): 5
- Laser Safety
    - 5 lasers of Class 3B and above were registered during 2013. A laser Registration Form including the protocol, schematics, operating manual, and training history was developed for use during 2013.
  - Audits
    - 238 Radiation Safety Audits were performed during 2013
  - Decontamination of Patient Rooms
    - 128 patient rooms were decontaminated during 2013
  - Radiological Survey Instrument Calibration
    - 208 Radiological Survey Instruments were calibrated during 2013
  - Surveys of Patients Undergoing Radiation Therapy
    - 167 Surveys were performed of patients who underwent radiation therapy
  - Human Use Protocols
    - 37 Human Use Protocols were reviewed and approved during 2013
  - Controlled Substances Program
    - The UAB OH&S Controlled Substances Program that included electronic registration, inventory, and tracking program was fully implemented in May 2013. This program allowed for electronic registration and tracking software which assists researchers, veterinarians, and staff to manage the acquisition, use, inventory, and disposal of drugs whose manufacture, possession, and use are regulated by the state and federal government. Currently, Departmental DEA numbers have been registered and 70 principal investigators are currently enrolled in the program with a Controlled Substances Use Authorization number. An additional 25 principal investigators are expected

to be enrolled during 2014. Audit questions have been developed and are being formatted and beta tested. Guidance, forms, training, policies, and regulations are all available online at <http://www.uab.edu/ohs/pages/chemicalsafety/cs/cs.html>.

- Emergency Management
- Director On Call Program
  - OH&S has implemented the Director on Call Program to ensure the availability of qualified personnel to receive and triage emergency calls 24/7/365. A program director or assistant director is always on call to make available to UAB Police, Birmingham Fire and Rescue (BFRS), and other emergency responders, a qualified individual from OH&S to provide the best available safety information. Training efforts were begun with BFRS to provide them with a knowledgeable “escort” when BFRS responds to incidents in labs and research facilities. Previous experience has shown that BFRS personnel’s comfort level is not high regarding materials they may encounter in labs. This training effort is designed to provide a greater comfort level that increases response time and minimizes potential damage.
- Drills and Tabletops
  - A series of ongoing drills and tabletop exercises have been implemented to ensure awareness and applicability of emergency response plans.
  - Student Services conducted tabletop exercises addressing civil unrest
  - Emergency Operations Center
    - The Emergency Operations Center (EOC) construction was completed. Shortly after its completion, the EOC had its first test during the ice storm on January 28<sup>th</sup>. The facility functioned well. The area (CH19 Basement) will also serve as a training space for coordinated training with BFRS, tabletop exercises for UAB faculty and staff, and emergency management committee meetings.
    - Kyle Boyett has accepted the position of Assistant Director of Emergency Preparedness and Business Continuity. Boyett is a long tenured employee within OH&S and has extensive emergency management and response experience. Reporting to the Executive Director for Emergency Management and Safety, Boyett’s position will allow for greater expansion of the UAB Emergency Management program, more training opportunities, and an increased number of drills. In addition, the position of Assistant Director of Emergency Preparedness and Business Continuity will work with various departments’ campus wide to ensure continuity of operations planning and coordination.
  - Tulane Memorandum of Understanding (MOU)
    - Representatives from Tulane visited UAB to tour the campus to conduct a site assessment with regards to the MOU requirements. The group

- reported leaving the meeting with a renewed confidence in their own ability to safely evacuate their students in the case of an emergency.
- Severe Weather Gathering Points
    - Campus buildings were carefully evaluated for areas considered suitable for gathering during periods of severe weather. These areas were labeled with signage specifically stating “Severe Weather Gathering Point” to assist building occupants and guests. A campus-wide awareness program using posters and direct mail pamphlets helped inform faculty, staff, and students on what to do during severe weather events. Specific instructions were distributed through the Provost’s office for all classrooms and faculty on how to respond in the event of severe weather, critical police or medical situations, and evacuation because of fire or other emergencies.
  - Emergency Notification
    - Previously, B-Alert (Blackboard Connect) was only available for enterprise-wide, action oriented, short messages during an emergency. A new contract with Blackboard Connect now allows for the creation of subgroups. Smaller groups, such as building administrators, can now also be notified of less emergent, yet important information via email, telephone, or text messaging. Other subgroups are being evaluated to help inform more specifically targeted audiences of events that may not necessarily affect the entire campus. Efforts were also begun to discuss emergency notifications to students that were formatted to social media. This effort will help students get emergency notification in a manner that is common and easily accessible to them.
  - Speaker Array
    - Testing of the speaker array indicated that the volume level was too low. After procurement from the vendor, an amplifier was installed. Further testing showed the volume level was adequate for the area this speaker is designed to serve. Work was begun on tying the text to speech capabilities of the speaker into the enterprise wide emergency notification system.
  - Continuity of Operations Plan (COOP)
    - A Building Specific Vulnerabilities (BSV) spreadsheet was developed and submitted to UAB Facilities for partial completion. Other groups will have a small part in completing each BSV. Once this is completed, a Hazard Vulnerability Assessment (HVA) can be performed for the campus. In addition, the framework for a COOP was developed. The HVA and the COOP (with instructions) will be distributed to individual departments and schools for completion. The results will then be compiled into an overall COOP for UAB.
  - Emergency Response Plans App

- Work has begun on developing an Emergency Response Plan app as an additional “button” on the UAB app. These plans are designed to provide users with immediate information in the event of a crisis. This format will be quick and easy to read.
- Cyclotron
  - Two Standard Operating Procedures were developed that will be crucial for the function of this facility in the event of an emergency. The first involves the medical evacuation of a potentially contaminated individual in the facility. The second involves potential flooding which may occur in the facility.
- Enterprise Emergency Management Committee (EEMC)
  - The EEMC was formed as a UAB multidisciplinary group that meets on a quarterly basis. The EEMC is comprised of UAB Medicine entities including UAB Hospital, TKC/HSF, and the Callahan Eye Hospital. Non-medical entities like UAB Occupational Health & Safety, UAB Police, Media Relations, Administration, and others from the UAB campus academic, research, and athletic groups are also members of the EEMC. The organization is charged with the oversight of a comprehensive emergency management program. The role of the EEMC is to facilitate institutional collaboration, share resources, monitor activities, and plan document reviews to ensure compliance with regulatory agencies and the accrediting bodies related to emergency management.
- Child Care Center
  - The storm shelter for the Child Care Center was completed. Evacuation plans were developed for the Center and drills were conducted to verify the plans worked as anticipated.
- Construction Safety
  - Approximately 500 ILSM (Construction Inspections) were conducted in 2013 on UAB’s campus
  - 2013 Campus Safety
    - Approximately 70 UAB buildings and/or buildings UAB employees occupy were inspected per NFPA 101 Life Safety Codes
    - All student residence halls performed fire drills each semester of the 2013 academic school year including the summer
    - A mock dorm drill was added to show the difference in penetrations between sealed and unsealed firewalls.
  - 2014 Goals
    - Inspect all 106 UAB buildings and/or buildings UAB employees occupy per NFPA Life Safety Codes
    - Submit for approval an updated draft of the UAB OH&S Safety Policy

- Healthcare Services
  - Hospital Safety
    - No Update
  - Joint Commission Survey
    - No Update
- Environmental Management
  - Environmental Site Assessments
    - Nine Phase 1 and Phase II Environmental Site Assessments were conducted in 2013 on properties clustered around the NW corner of the UAB campus.
  - Storm Drain Labeling
    - Thirty storm drains have been labeled with the “no waste dumping” warning.
  - Environmental Compliance Audits
    - Ninety-one unannounced “focused” environmental compliance audits were conducted in 2013.
  - Title V Permit
    - Gathered and compiled data for a consolidated permit application that was requested by JCDH in 2013 was accomplished. The final application submittal will occur in 2014.
- OH&S Employee Health Program
  - The OH&S Employee Health Program provides a variety of services to UAB employees. These services are based upon an individual’s health history and the potential health risk posed by the work they perform at UAB. Approximately 500 employees were added to the program during 2013. As a result, the number actively served by the OH&S Employee Health Program is in excess of 3,500. Scheduled appointments increased from 1,290 in 2012 to 1,550 in 2013. Additionally, services such as vaccinations, TB screens, respiratory fit tests and/or status updates increased from 2,209 in 2012 to 4,000 in 2013.
- Departmental Reorganization
  - Though Phase Two was planned for implementation in 2013, the project has yet to be funded. Phase Two will be directed at providing a more comprehensive health and safety program for student life, construction safety, healthcare safety, training, and IT development. As Phase Two remains to be a critical part of the overall departmental reorganization, its funding is greatly needed and optimistically anticipated.

## LEARNING OPPORTUNITIES

- Training Courses
  - A/BSL3 Training

- UAB's BSL3/ABSL3 training program is a 5-day, comprehensive safety training program designed to provide participants a thorough understanding of potential workplace hazards. The course provides participants with information on how to best reduce or eliminate their risk of exposure. After completing basic prerequisites, participants receive didactic and hands-on training as well as a proficiency evaluation related to the following:
        - Review of Bio Containment Control Mechanisms
        - Engineering Controls
        - Administrative Controls
        - Personal Protective Equipment
        - Respirators and Fit Testing
        - SEBLAB Practical for New Employees
        - Agent Specific Training for BSL3 and ABSL3
        - SEBLAB Specific Training
        - Mentorship
        - Select Agent Training
        - General Hazard Awareness for Non-Laboratory Personnel
      - This training has been developed by and is offered through OH&S at no cost to the registrant. Providing this course through OH&S at no cost means that each participant realizes an actual savings of approximately \$2,500.00 based on fees assessed for the same or similar courses offered outside of UAB.
    - The Spill Prevention Control and Countermeasures (SPCC) training course development began and will be completed in early 2014.
    - Defensive Driver Training
      - Defensive Driver Course Classes=6w/101 total attendees
    - 15 Passenger Van Training
      - 15 Passenger Van Course Classes=6w/50 total attendees
    - Orientation Classes to Graduate Students, Post Docs, and New Faculty
      - Two classes for new grad students were held
      - Two classes for new post docs were held
      - One class for new medical fellows was held
      - Two Grant Writing Courses were held
      - A total of 170 individuals were trained during 2013.
    - Develop comprehensive Authorized Physician Users and Misadministration training module for physicians and medical physicists.
    - Training and the Radiation Safety Practicum
      - Approximately 636 people received radiation safety training during 2013. Currently, the UAB Radiation Safety Program personnel presents live training to 29 different groups identified for training. This does not include the department's online training efforts.

- The Applied Radiation Safety Training Practicum is the second part of a two-part requirement for working with radioactive materials at UAB. The Practicum consists of the submittal of a pre operational baseline bioassay and the successful completion of the actual live hands-on practicum. The live hands-on practicum consists of several stations that feature practical in-lab tasks for which the student must demonstrate proficiency. The stations include but are not limited to the following:
  - Proper Direct and Liquid Scintillation Survey Techniques
  - Understanding the Properties and Characteristics of Different Types of Radiation
  - Determination and Use of the Proper Shielding Materials
  - Proper Waste Handling and Packaging Techniques
  - Staging Your Radiation Work Space
  - Spill Management
  - Online Radioactive Materials Inventory Submittal
  - Online Personnel Monitoring Submittal
  - Online Radioactive Materials Waste Inventory Submittal
- Health & Safety Fairs (TKC, Hospital, Dorm Room Burn)
  - During 2013 there were two comprehensive Health and Safety fairs held on campus that featured information and training from a number of areas within OH&S.
    - The fair held at The Kirklin Clinic is an annual training event that targets TKC and Health Services employees.
    - The fair at University Hospital is an annual training event that targets Hospital employees to accomplish annual training goals.
  - Dorm Room Burn Demonstration
    - A mock dorm room was fashioned and set on fire to show the difference in a sprinklered and unsprinklered room and to demonstrate the quickness of a burn.

## CULTURE OF SAFETY INITIATIVE

- Enterprise Risk Management Initiative and Endorsement  
 UAB leadership is partnering with UAB OH&S to design and implement strategies to enhance our safety culture. The Initiative promotes “a culture of laboratory safety that recognizes the importance of compliance with regulations and policies and consistently implements safety procedures reducing the potential for breach and/or impact of breach” (a current UAB Enterprise Risk Management initiative) without adding undue burden, arduous processes or more paperwork.
- Research Operations Contact (ROC) and Research Operations Lab Liaison (ROL)-Culture of Safety



- The Culture of Safety Initiative rollout to the UAB Research Community, which was originally planned for the end of May/first of June 2013, was delayed due to staffing and operational constraints. The rollout has been reset for Fall 2014.
- Preliminary meetings with applicable Deans, Chairs, and Department Heads were completed in February 2013.
- Various faculty groups have since requested program overviews. Those sessions will remain available as long as they are requested.
- **ROC and ROL with Safety**
  - The Research Operations Safety Program provides an essential link between OH&S and the research laboratory staff. The Safety Program uses vital connections between staff, Administration (Research Operations Contact-ROC), and at the lab (Research Operations Lab Liaison-ROL). It establishes clear lines of responsibility and authority that aid in risk assessment, safety practice, implementation, incident mitigation, follow-up, and ownership in overall safety.
  - The Safety Program provides direct contact between laboratories under their purview and OH&S service issues i.e. scheduling audits, equipment certifications, waste management, and laboratory set up or shut down, etc.
  - Participants from research departments and labs will assist in activities such as:
    - Identifying employees that may require laboratory safety related training
    - Ensuring that training and documentation meets OH&S requirements
    - Assisting with regular safety self-inspections of their laboratory
    - Encouraging regular attendance for quarterly updates
    - Receiving and distributing safety updates to their laboratory

### **REGULATORY SECTION UPDATES 2013**

- **Alabama Department of Environmental Management (ADEM) / Environmental Protection Agency (EPA) Inspection, Violations**
  - No ADEM inspections were conducted in 2013.
  - No EPA inspections were conducted in 2013.
- **Federal Aviation Administration (FAA)**
  - There was no FAA inspections or actions.
- **State Division of Radiation Control/ Nuclear Regulatory Commission (NRC)**
  - Alabama Department of Public Health Office of Radiation Control is in the process of overhauling the state regulations. Changes may be released prior to January 1, 2015.
  - NRC – Nuclear Regulatory Commission Update
    - NRC Proposed new rules for control and accounting of special nuclear material.
    - National Academy of Sciences started NRC-Sponsored Cancer Risk Pilot Study.

- NRC Finalized rules on using and distributing uranium and thorium.
  - NRC sought public comment on proposed rule for packaging and transporting radioactive materials.
  - NRC amended regulations on security of radioactive materials.
- City
  - No COB environmental inspections were conducted.
- Jefferson County Department of Health
  - No JCDH environmental inspections were conducted.
- Drug Enforcement Agency (DEA)
  - No DEA inspections were conducted.
- Department of Defense (DoD)
  - DoD Facility Safety Plan Annual Renewal was submitted and nothing else is due until next year.
- Centers for Disease Control (CDC)
  - The Federal Select Agent Program conducted an unannounced CDC inspection of the UAB Select Agent Program during February 6-8, 2013. All deviations from requirements were addressed. No critical items were identified. An additional inspection to renew certification may occur before the May 2014 expiration date.
- United States Department of Agriculture (USDA)
  - There was no USDA inspections or actions.
- Joint Commission
  - No Update
- Department of Transportation (DOT)
  - There was no DOT inspections or actions.
- National Institutes of Health (NIH)
  - An inspection of the UAB Institutional Biosafety Committee (IBC) policy, procedures, and operations as they apply to the NIH Guidelines for Recombinant and Synthetic Nucleic Acids and Research was conducted by the NIH's Office of Biotechnology Activities (OBA) during March 2013. Areas of improvement that were identified included the following:
    - **Training**-Develop and conduct additional training for Principal Investigators regarding the Guidelines.

- **Detailed Discussion**-Add more detail on project specific discussion occurring at the meeting.
    - Improvement Recommendation Updates
      - Additional training for Principal Investigators is currently being developed and will be available upon completion
      - More details are currently being added to project specific discussions
      - For the time being, meeting minutes are being submitted directly to the NIH for content approval
  - Homeland Security
    - No Update

## GOALS FOR NEXT YEAR

- Emergency Operations Center
  - Expand emergency management and business continuity program
  - Develop, equip, and make operational an Emergency Operations Center
  - Develop hazmat response program with BFRS
- Campus Safety Fair
  - In conjunction with homecoming conduct a comprehensive Health & Safety Fair with a mock room dorm burn. Incorporate other UAB entities.
- Environmental Management System (EMS)
  - The UAB EMS will be on the OHS website with links to areas of the website related to the EMS. Currently there is a functioning, informal environmental/health and safety management system but gaps were identified that need to be in the system. Written SOPs will be added as a section to the website describing the EMS with links established to major elements located in other areas of the website. This will consolidate all EMS related functions and activities into a coherent whole.
- UAB Sustainability Program
  - UAB Sustainability was reorganized around a new Sustainability Coordinator position. The Sustainability staff subcommittee, with OH&S and Facility staff members was disbanded. OH&S continues to be represented on the Sustainability Committee along with various other UAB faculty and staff.
- Campus Safety
  - Updated version of UAB OH&S' Safety Conditions 821
  - OSHA 10 hr (1926) certification for UAB EPS employees
  - OSHA 10 hr (1910) certification for UAB Maintenance employees
  - Updated golf cart training program for applicable UAB employees/students

- Inspect all 106 UAB buildings and/or buildings UAB employees occupy per NFPA Life Safety Codes
- Improve campus student/maintenance/construction health and safety program, gap analysis required
- Chemical Inventory Program
  - April 1, 2014
    - Initial inventory will begin in the Chemistry Department. The Chemistry stockroom manager and the RHSC will conduct this inventory. Information from this initial inventory will be used to establish a firm timeline for the rollout to other campus departments. The Engineering Department has expressed an interest in being the second department to be inventoried.
  - April-August 2014
    - Inventory of Chemistry Department and possibly Engineering. Adjustments to IMS and web interface as needed.
  - August-September 2014
    - Recruitment and training of student volunteers. Announcement of inventory program to campus community through OH&S website, eReporter, Safety Shorts email list, flyers in research buildings.
  - October 2014-September 2015
    - Scheduling of laboratories for initial inventory
    - Creation of a formal timeline for initial inventory completion by department or laboratory. Note: OH&S may need to schedule additional waste disposal pick-up with hazardous waste contractor
    - Development of the report format for the IMS database
    - Refinement of the inventory entry web interface
    - Development of the inventory reconciliation protocol
    - Refinement of the chemical information entry process for new chemicals and trade name products
    - Development and presentation of training for all users on preparing for the inventory, using the online inventory system, managing chemicals, and conducting the inventory reconciliation
- ROC and ROL – Culture of Safety
  - Rollout the ROC and ROL Culture of Safety program in conjunction with the Chemical Inventory Program in UAB Research Labs
- Improve OH&S Project Approval Process and Integration with IRAP
  - Developed question sets for basic research project review. Staff also continues to refine the human use trials question set in anticipation of IRAP integration.

- Employee Health
  - Expand OH&S Employee Health Program to include employees from the School of Medicine Clinics, Building Services and Grounds, School of Dentistry, UAB Police, Central Utilities, and Building Alteration Services. This will mean the addition of approximately 1,500 employees who are not currently participating.
  
- BSL3/ABSL3 Classes
  - Conduct 2 BSL3/ABSL3 classes in 2014. Enrollment is estimated at 12-16 participants.
  
- Controlled Substances Program
  - Continue enrollment for PIs into the Controlled Substances Program and begin unannounced audits using the electronic audit format and system.
  
- Radiation Safety Program
  - Obtain the approved Pharmacy and Manufacturing Materials Cyclotron license from the Alabama Department of Public Health office of Radiation Control (The State)
  - Develop a comprehensive radiation safety protection program for the day to day Cyclotron operations
  - Complete the licensing and gain State approval for the disposal of radioactive materials by way of sanitary sewer
  - Complete the licensing and gain State approval for the disposal of radioactive materials by way of incinerator
  - Develop a medical physics program that will address the needs of all UAB Human Use licenses
  - Launch the new UAB Laser and Non Ionizing Radiation Safety Program
  - Develop an online mechanism for tracking and approving Human Subjects protocols/studies
  - Develop physician level training for approving Authorized Physician Users
  - Develop training modules for identifying, defining, and reporting Nuclear Medicine and Radiation Oncology misadministration's
  - Define outlying clinics and UAB entities that should fall under the oversight of the UAB Broad Scope Radioactive Materials license or the UAB Particle Accelerator Registration

Department Restructuring

- Complete Phase Two of department restructuring