



**Report to the Medical Staff of the Executive Committee
Personnel and Environmental Safety Subcommittee
2010 Annual Report**

The committee continues to review all safety policies on a two year rotation. A total of 24 policies were reviewed in 2010.

Environmental Health and Safety (EH&S) conducted environmental monitoring throughout the year including scheduled environmental monitoring for glutaraldehyde, ethylene oxide, noise, volatile organic compounds, xylene, liquid nitrogen, and waste anesthetic gases and results were within recommended guidelines or OSHA limits except in the following areas. Formaldehyde air monitoring continued to be conducted at the hospital morgue in the Brinkhous-Bullitt Building. The purpose of the sampling was to evaluate exposure during smaller quantity organ disposal procedures and to evaluate effectiveness of a neutralization product. While the air sample results collected during the initial neutralization tests looked promising, subsequent testing did not consistently find significant reduction in formaldehyde exposure below the occupational exposure limits (OEL). All but one sampling result were below OSHA's short term exposure limit but several exceeded the American Conference of Governmental Industrial Hygienist's (ACGIH) guidance limit. The School of Medicine's Planning Office conducted an engineering assessment of the ventilation systems and a design to improve the ventilation in the Morgue is underway.

EH&S also conducted environmental air monitoring for formaldehyde in the Anatomic Pathology (AP) gross lab area. The purpose of the monitoring was to evaluate formaldehyde exposures during grossing of organs/tissues and other associated tasks. Four samples were collected on two employees and the results were below OSHA's regulatory standards; however, an exposure above the ACGIH's recommended formaldehyde standard was identified during the block collection procedure on one employee. Recommendations were provided on surveillance of potential exposure symptoms, assuring that annual formaldehyde training is conducted, use of personal protective equipment, and further evaluation of local exhaust ventilation (LEV) systems.

Leak testing was performed on anesthesia units (AU) in Operating Rooms 1, 2, 4, 12, 14, and 15. This testing was conducted by measuring nitrous oxide using a MIRAN Sapphire 205B Infrared Spectrophotometer. Leaks were detected in 2 AUs at connections which were corrected by replacement or tightening during the session. Ongoing and routine leak testing has been scheduled.

Per a request from UNC Health Care's Dermatology Clinic located in Southern Village a risk assessment of health and safety concerns associated with use liquid nitrogen (cryogenic liquid) was conducted. As part of this assessment, monitoring of oxygen levels was conducted during the transfer of liquid nitrogen from the low pressure cryogenic storage tanks to five small Cry-Ac® canisters. The oxygen levels in the storage/utility room in which this task is performed did not drop below 19.5%, the OSHA definition for an oxygen deficient atmosphere. Recommendations on safe work practices/procedures, including proper use of PPE and evaluation of potential safeguards, including size limitations, relocations of tanks, and/or installation of a permanent oxygen monitor/alarm system have been provided to clinic management.

Several areas were investigated for indoor air quality concerns, all within normal parameters except for the following. In response to multiple reports of transient exhaust-like odors in the Molecular Pathology (MP) Lab, an IAQ assessment including monitoring was conducted over several days. Based on site investigations and air monitoring for ultra-fine particles, it was determined that vehicle and generator exhaust migrated into the MP lab. Potential pollutant pathways for this particular situation are entrance doors on the AP dock and outside air intakes. Recommendations regarding an engineering evaluation were forwarded to Plant Engineering. Installation of charcoal filters on the outside air intake filters have been planned along with a possible engineering study of the generator exhaust controls.

An indoor air quality investigation was conducted in the Communication's Call Center (CCC). Employees reported various symptoms including sneezing, coughing, eye irritation, headaches, sinus problems, and breathing difficulties. In addition to symptom reports, these employees and management reported a long history of various odor problems in this space. In response to these concerns, a comprehensive IAQ

investigation was initiated. Based on visual inspection and testing/monitoring, areas of concerns identified during this investigations were: consistent time period of elevated VOC concentrations (1000 to 149,790 parts per billion), fungal growth and dust/debris buildup in HVAC, design shortcoming in HVAC system (OA intake near pollutant sources and recirculation air from the pharmacy lab); and shortcomings in housekeeping. The elevated VOC concentrations are associated with isopropyl alcohol being used in CCC and the adjacent pharmacy lab. Some initial responses taken to date have been a change in cleaning products/methods to help reduce VOC and installation of charcoal filters in the HVAC system. Planned renovation of the adjacent pharmacy should provide some additional improvement; however, HVAC cleaning/restoration and significant modifications to the system will be needed to fully address some of the conditions identified.

A water leak from a sprinkler valve resulted in flooding of multiple rooms in ACC Day Op including the ORs, and post and pre-op areas. The event was associated with work being conducted as part of a renovation project currently underway at this site. The initial response to this water loss event was addressed by the general contractor and a restoration company. Extraction and initial drying efforts were conducted during this initial response. Follow-up assessment of the site was conducted. Using moisture meters, areas of moisture were identified primarily at the baseboard level of the sheetrock walls in the Pre/Post Op and Work areas. Multiple pockets of moisture and visible signs of damage/deterioration were found at upper levels of walls in a restroom in the post operative area, which was the site of the actual water leak (above the ceiling). Removal of wallboard under containment was conducted by a remediation/abatement contractor. The following week, three areas of patchy mold growth were discovered growing on the walls under Plexiglas wall protectors in post OP and work area. Removal and cleaning of mold growth was conducted. This area was monitored during the renovation phases to ensure no additional mold growth was identified.