

# **ANIMAL SCIENCE COMPLEX INDOOR AIR QUALITY CONCERNS – SUMMARY OF ISSUES AND ACTIONS**

October 12, 2001

December, 1999 – January, 2000

Small bottle of phenol cracked and fumes escaped in a storage room. The “spill” was contained in the room and Environmental Health and Safety removed the phenol and shelving.

January – June, 2000

In January a student employee passed out in ASC 162. Staff in that lab reported a chemical odor, possibly ether, coming from the fresh air vents at the time.

Eleven employees in ASC filed workers compensation claims and one student filed a liability claim alleging that medical concerns, including a wide variety of symptoms, are the result of sick building syndrome in ASC. Payments were made on portions of three claims and the rest were denied. Independent Medical Examinations were conducted by toxicologists and occupational medicine physicians on at least three employees. The results of those evaluations were that the doctors did not believe the patients’ symptomology was related to employment at SDSU.

April, 2000

The exhaust fan on one fume hood in ASC 151 was replaced and the stack height increased to eliminate the possibility that chemical fumes could reenter the fresh air system, based on a complaint that ether had reentered the building in ASC 162 from that hood.

April - May, 2000

SDSU contracted with Environmental Health and Safety, Inc. to have an independent industrial hygienist conduct an air quality study of the building. The study included a review of indoor air quality, a review of the heating, ventilation, and air conditioning (HVAC) systems, sampling for microbial and fungi contamination, and development of atmospheric dispersion models. Through a survey of 100 building staff, 30 responded and 13 reported some symptoms. No detectable levels of chemical contaminants were found. Some fungi contamination was found in the ductwork in the building.

Recommendations from the consultant included cleaning the ductwork in the building, modify fume hood exhaust stack heights as needed to prevent potential reentrainment of exhaust air, and have an independent mechanical engineering firm conduct a complete study of the HVAC system. Results of the consultant’s report were presented to building staff on June 1, 2000.

July and August, 2000

An outside contractor cleaned the entire duct system in the building and sprayed the system with an EPA approved fungicidal material to prevent future growth. The filter system in the air handling units was upgraded at the same time.

Summer – Fall, 2000

West Plains Engineering was hired to do a complete study of the HVAC system. Recommendations included replacing existing fume hood exhaust fans and ductwork to hoods, replace several air handling units and balance the system, provide pressure relief from the building, and update the temperature control system. The proposed work would assure that there would be no issue with undiluted air reentering the building, although the report acknowledged that earlier studies indicated that chemicals measured were below recommended levels at the fresh air intake.

December, 2000

Staff from the State Department of Health reviewed previous studies and evaluations and concluded that they found nothing that they would consider to be a case definition for that group of “like illnesses.”

January – June, 2001

The State Department of Health submitted a request to the National Institute for Occupational Safety and Health (NIOSH) to conduct a health hazard evaluation at ASC. NIOSH staff reviewed previous reports and studies and determined that a review of medical records of employees still reporting symptoms was the appropriate response. Three individuals submitted medical records when requested to do so. The review of medical records “...did not reveal any chronic or persistent health effects that could be directly related to occupational exposures at SDSU ASC.” NIOSH recommended that SDSU continue to follow the recommendations made by the industrial hygienist, investigate solvent use and solvent work practices in ASC, reinforce proper workplace practices such as hand washing and prohibit eating and drinking in laboratories, and inspect fume hoods to ensure they work with the proper face velocity and the maximum sash height. NIOSH further stated that another building inspection or further testing was not justified and closed out the health hazard evaluation.

Summer – Fall, 2001

SDSU contracted with West Plains Engineering to do the detailed design and specifications necessary to prepare a bid document for the renovation of the HVAC system in ASC recommended by West Plains in the earlier study. That design process is under way.