Sick Buildings and Untimely Employee Deaths at Sandia National Laboratories

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Sandia National Laboratories employees may be dying at an earlier age as well as from a higher incidence of cancer than the general population. Employee deaths that were posted in the biweekly Sandia Lab News during the period from February 2001 through August 2008 show that there were 68 employee deaths at an average age of just over 50 years at the time of death. Of the 68 deaths, cancer was cited as the cause of death for 12 persons representing over 17% of the deaths. In contrast, the age-adjusted death rate from cancer in the United States in 2006 was 0.8%. Life expectancy in the United States is currently 78.1 years.i

A “long illness” was cited as the cause of death for 9 employees, heart attacks were cited for 9 employees, and 17 employees died unexpectedly of an illness or of a “sudden illness.” The cause of death was not stated for 33 others. These early deaths and lengthy illnesses represent great tragedy for young families.

Cancer victims do not wear red flags portraying the causes of their cancers. A former Sandia worker confirmed that Sandia employees suspect that exposure to radiation and toxic waste in Sandia offices converted from laboratory buildings may be a contributing cause of disease and possibly death of co-workers. In contrast to new facilities, much Sandia work still takes place in buildings and laboratories that are 30 to 50 years old.ii Many of those buildings date from a period when the U.S. was rapidly expanding its nuclear arsenal. Sandia formerly conducted production and assembly of nuclear weapons.

Contamination from high explosives, hazardous metals, chemical wastes and radionuclides used in decades of exotic experiments, and explosive testing related to Sandia’s nuclear weapons production and other work, were released into buildings, and may have contaminated other areas. Dangerous residues that can lead to disease and death accumulated in Sandia buildings with potential for worker exposure.

In 1999, over 50 current and former workers of Building 807 began complaining of health symptoms that included neurological and respiratory illnesses.iii Building 807 was built in 1966 in Technical Area I at Sandia as part of a four-story U-shaped complex that also included Buildings 805 and 806. Tests by employees’ private physicians indicated the presence of thallium in blood samples.

Some of the former laboratory facilities in Bldg 807 had been remodeled and converted to administrative office use over the years. Neutron generator activities associated with tritium releases were ongoing in the basement of Bldg 807 with workers that often were not radiation-badged with dosimeters to measure radiation exposure.iv

Sandia conducted three independent studies regarding the Bldg 807 worker health complaints. In 2002, after a two-year long investigation of Bldg 807, Sandia concluded that “no current health hazard” existed in Bldg 807. Although only 22 employee volunteers participated in the health screening studies, no ‘cluster’ of symptoms was found when comparing Bldg 807 workers to different groups at Sandia.iv

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ii. Many of those buildings date from a period when the U.S. was rapidly expanding its nuclear arsenal.

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The studies’ results are questionable for several reasons. Because volunteers were used, the sampling was biased. For example, persons too sick to be at work would not have volunteered, introducing bias into the study. The studies were too small to lead to statistically valid results, and studies comparing Sandia employees to non-Sandia workers (a control group) were not conducted.

An additional problem with the subsequent Sandia studies is that the findings from testing the 22 workers were used as the basis for the later epidemiological studies. Thus, all statistical errors in the sampling of the 22 workers were carried to the studies that followed.

Although Sandia claimed that no health hazard existed in its published conclusions, several rooms of the first floor of Bldg 807 were vacated and converted to non-occupied storage as a result of suspected “sick-building syndrome.”

Despite Sandia’s conclusions in its health survey of Bldg 807 to allay workers’ fears, a report in 2006 signed by five Sandia environmental and radiation protection officials and a Shaw Environmental, Inc. officer revealed very different findings.

Sandia clearly knew that historic contamination was present in Bldg 807 for years prior to employee complaints. Mercury contamination in at least three rooms and a spill in another room were documented. Radioactive materials were used in the neutron test cell in the basement. An occurrence report documented personnel contamination in the basement where the entire laboratory drain lateral was labeled “Caution Internal Radioactive Contamination.”

The 2006 Shaw report documented more than 22 rooms and also the basement as long suspected of being contaminated with various radioactive materials such as americium, barium, tritium, depleted uranium, nickel-63, barium-133, thorium oxide and explosives. Heavy metals including arsenic, cadmium, chromium, lead, mercury, selenium and silver were suspected in fume hoods and drains throughout the building. Polychlorinated biphenyls (PCBs) were suspected to be on the concrete floor and underlying soil of the basement.

Contamination was suspected in benches, cabinets, fume hoods, drawers, back cabinets, walls, ceiling, pipes, ductwork, drains, countertops, and floor tiles.

In July 2005, the National Nuclear Security Administration Sandia site office filed a notice of renovation with the City of Albuquerque for the removal of friable asbestos in the basement of Building 807. Over 142,629 sq ft of asbestos, much of it in friable form, was identified for removal. Asbestos is a known carcinogen.
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Negative air pressure was not maintained in contaminated rooms to prevent dust from traveling throughout the building. Hazardous waste containers were kept immediately next to the Bldg 807 entrance. There were concerns that contractors were spreading contamination by wandering through “common areas” without decontaminating themselves after exposures to contaminated areas.

Finally, in late January 2007, employee complaints reached a climax so that a “town hall” meeting was held for Bldg 807 residents. The project leaders then committed to implementing additional measures to control dust and odors that were entering the building air system. Building residents were to be provided at least one day of notice for sustained noisy or disruptive operations with hallway sweeps before starting the operations. Employees were left working in Bldg 807 through September 2007.

The City of Albuquerque Air Quality Division (AQD) does not regularly make inspections of building demolitions at Sandia. The AQD does not monitor for radionuclides or hazardous waste that may be present in the demolition and released to the air pathway for Sandia and bordering Albuquerque areas. The New Mexico Environment Department Hazardous Waste Bureau is also not monitoring building demolitions at Sandia for the handling and disposal of hazardous materials.

Witnesses and photos verify that Sandia employees could view the demolition activities from only yards away at the fence line. No precautions to protect employees such as posted warning signs or fugitive dust suppression were taken.

References:
(ii) Sandia National Laboratories Ten-Year Site Plan for FY 2008, p.6. (Obtained by Citizen Action Freedom of Information Act (FOIA) request.)
(iii) Sandia Lab News, 12/15/2000, Bioassays recommended for some Bldg. 807 occupants
(v) Sandia Lab News, 8/9/2002, After two years, Bldg. 807 investigation provides no new scientific leads; Studies fail to find a current health hazard; no new studies planned
(vii) Sandia Project Plan for Decontamination and Demolition of Building 807 in Technical Area 1
(viii) Site-Specific Health and Safety Plan Addendum, Building 807 Characterization and Removal Project, prepared by Shaw Environmental, Inc. for SNL/NM (December 2006), Table 3-2.