

CAN IT HAPPEN HERE?

As we watch the explosions at nuclear reactors in faraway Japan, we may feel that nothing like this could happen here. But New Mexicans have two nuclear reactors in their back yard, both at Sandia National Laboratories. One of the nuclear reactors is in a building that cannot be made safe should a large earthquake happen in Albuquerque. The reactor is located within the take-off and landing pattern used by both Kirtland and the Albuquerque Sunport.

Dense housing tracts, freeways, military housing, day care centers and schools are located within and along the boundaries of Kirtland AFB where the nuclear reactors are housed. Surrounding the area are Pueblo of Isleta, Mesa del Sol, Wherry Elementary, the Child Development Center- East, the Coronado Club, Sandia Base Elementary, KAFB housing, Shandiin Daycare Center, the National Atomic Museum, housing along Gibson, Wyoming, and Louisiana Blvds., thousands of commuters including the I-25 and I-40 corridors, workers and military personnel.

The Sandia reactor, dubbed the Annular Core Research Reactor, is decades old and has no containment that would keep its radiation from contaminating military personnel, their families and residents of Albuquerque. Ground rupture can occur at the location of the reactor that is in the southwest portion of Sandia Labs. The surrounding public has not been informed of any provisions for evacuation if they even exist.

Kirtland AFB and Sandia are riddled with earthquake faults. A major earthquake in the Albuquerque area has the potential for human injury and building damage throughout the region.¹ Due to age and poor design, many Sandia buildings and structures cannot withstand a large earthquake and could release a chemical cloud exposing many thousands of persons, according to the 1999 Sandia Environmental Impact Statement.

Facilities at Technical Area-I at Sandia could release a chemical plume with exposure of as many as 5,300 persons at 3,800 feet. Technical Area-V would be the predominant source of release of radioactive materials. Sandia's Environmental Impact Statement is ten years out of date. Human exposures to toxic chemicals and radiation would probably be higher now after 12 years of rapid population growth in Albuquerque.

One reactor is located in the same unsafe building (Bldg # 6588) with a hot cell facility that handles high level radioactive waste. The potential for the increased danger from failure of the building's shared safety systems in the event of a strong earthquake has not been analyzed.

The Defense Nuclear Facilities Safety Board found seven years ago that unexamined dangers for fire hazards, an airplane crash and equipment operations existed for Sandia's nuclear facilities. To this date, the Safety Board still has not made a decision to block approval for the operation of this dangerous nuclear reactor.

According to the Safety Board staff, the ventilation system at the Sandia Nuclear reactor and the hot cell facility is not built to earthquake safety standards that could prevent a radioactive plume from escaping from the building into the community.

An accident at the reactorⁱⁱ would be severe with an unconfined release of radiation. . Neither the water in the reactor pool nor the ventilation system would hold back the release of the radioactive inventory that includes Plutonium-239.

Sandia has stated that it would not be feasible to modify the building structure and ventilation system to act as a safety class confinement system, because the building is a decades old structure which does not meet earthquake safety criteria.

So the public is at put risk from continued operations of an unsafe nuclear reactor that is in a building too old to be upgraded for safety.

A January 24, 2005 Sandia analysis, *The Path Ahead to Improve the Nuclear Safety Basis Process at Sandia National Laboratories*, identified the root cause that “Sandia has failed to manage the nuclear safety basis program in a formal, systematic manner based on recognized management system standards.” The report stated that “Nuclear safety basis activities have been a low priority for Sandia senior management.”

By allowing the reactor and hot cell operations in a building that cannot be made safe for earthquakes, Sandia is violating federal laws that require protection for the workers, public and environment. (10 Code of Federal Regulations Section 830.204).

According to Safety Board staff concerns, no safety class systems to protect the public are in place to prevent a radioactive plume from escaping from Sandia’s Auxiliary Hot Cell Facility. Nevertheless, the National Nuclear Safety Administration approved a safety analysis for the facility despite 111 pending safety concerns of the Safety Board staff. The Safety Board staff report identified that:

“The hot cell structure and ventilation system perform a safety-significant confinement function. However, the hot cell itself is built only to PC-2 requirements, which do not provide for survivable confinement after a seismic event. The ventilation system is not built to PC-2 requirement. Thus, it does not provide confinement of material released during a fire inside the hot cell that is initiated by a seismic event. The DSA [Design Safety Analysis] did not identify or address this deficiency.”

Sandia National Laboratory is the only National Nuclear Security Administration (NNSA) facility operating on a U.S. military installation, i.e., Kirtland Air Force Base That creates special dangers not present at other military bases and not present for other national laboratories. That a nuclear accident could occur near to the storage location at Kirtland AFB for nearly 2000 thermonuclear weapons is less than appealing.

How do we protect ourselves from acts of nature when there is information we don’t have? According to DOE official, Thomas D’Agostino, DOE does not plan to upgrade

the nuclear reactor to protect the public. The Safety Board has no authority to enforce nuclear reactor safety standards at Department of Energy nuclear reactors. The Department of Energy allows operation of this reactor to fall far short of the standards that the Nuclear Regulatory Commission applies to commercial reactors. The public cannot watch a nuclear meltdown in Japan without having a sense of urgency to prevent a nuclear crisis here in New Mexico.

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ⁱ Probable future earthquake potential has been estimated to have large magnitude with surface-rupturing potential. (See e.g. *Paleoearthquakes and Eolian-Dominated Fault Sedimentation along the Hubbell Spring Fault Zone near Albuquerque , New Mexico*, Bulletin of the Seismological Society of America, June 2003; v. 93; no. 3; p. 1355-1369).

ⁱⁱ The accident could occur from a too rapid or uncontrolled regulating rod withdrawal. The reactor explosion possible for the ACRR is described as being of the same type and could be more severe than the Idaho SL-1 reactor that killed three workers and had an unconfined release of over 1,100 curies of radiation. Fortunately, the SL-1 was in a remote location.