

Is There *Really* a Cowboy Culture of Arrogance at Los Alamos?

Brad Lee Holian

The director of Los Alamos National Laboratory (LANL), G. Peter Nanos, shut down all classified operations at the lab in mid-July, following a security incident in which two items of classified removable electronic media were reported to be missing after an inventory. Then, two days after a student intern apparently suffered an eye injury from a laser in a chemistry laboratory, the director shut down *all* operations at the lab, even though preliminary investigations had only begun. In an all-hands meeting, he told the LANL staff, "There's a belief amongst some very powerful people in Congress that academic culture and running a high-security national laboratory are totally incompatible, and scientists can't be trusted." He added, pointedly: "I emphasized to everyone I met with that this willful flouting of the rules must stop, and I don't care how many people I have to fire to make it stop. If you think the rules are silly, if you think compliance is a joke, please resign now and save me the trouble. If I have to restart the Laboratory with 10 people, I will" (*LANL Newsletter*, 2 August 2004, page 1; also see *APS News*, October 2004, page 8).

The tasks performed at LANL include some of the most dangerous chemistry in the world—for example, handling of actinides and high explosives. Moreover, the manufacturing of plutonium pits at LANL involves routine handling of materials that are unquestionably among the most dangerous in the world. The lab began as the top-secret Manhattan Project laboratory during World War II. The University of California (UC) has managed it from the beginning, for more than 60 years. Dangerous work has always been an integral part of life at LANL.

When people in power raise serious questions about LANL's so-called "academic culture" in the areas of safety, se-

curity, and compliance—often going so far as to suggest that the lab is a den of cowboy scientists, saboteurs, spies, and thieves—it is appropriate to consult the available statistics for the laboratory in these areas. One can then judge the behavior of workers at LANL compared to large industries and other nuclear weapons labs in the US Department of Energy complex, such as Lawrence Livermore National Laboratory and Sandia National Laboratories.

The accompanying figure shows timelines of recordable safety incidents (injury and illness) over the past decade, normalized to the equivalent of 100 person-years worked, for DOE labs (LANL, LLNL, SNL, Oak Ridge, Argonne, Brookhaven, and Lawrence Berkeley), and the nationwide averages for the manufacturing and chemical industries, along with the figures for the DuPont company, an acknowledged leader in industrial safety.

The figure reveals that in the 1990s, the overall nationwide trend in safety incidents was downward, with the chemical industry statistics consistently reflecting half the rate of injury and illness incidents of the manufacturing industry. Beginning in 1997, the DOE labs began to exceed nationwide improvements in safety practices. DuPont had an average rate of half as many safety incidents as the chemical industry nationwide. From 2000 onward, LANL took the lead in safety performance among comparable labs in the DOE complex, and exceeded even DuPont.

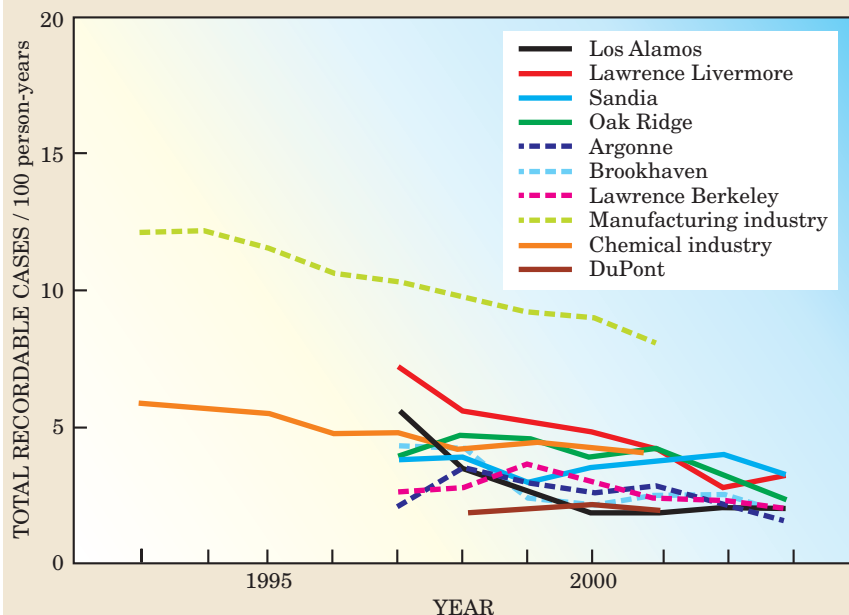
Statistics for serious accidents or near-accidents are not noticeably different from the averages in the figure. The safety record of LANL in the past decade has not been significantly worse than that of Livermore or Sandia and is actually better, especially with regard to serious—as opposed to minor—safety incidents.

Unfortunately, only anecdotal evidence exists for security compliance statistics. Yet it could be argued that safety statistics such as those in the figure reflect the care with which people approach their jobs and the way in which they handle America's nuclear weapons secrets.

Why then has LANL been such a target of congressional scrutiny and ire? One answer might be that since the bombing of Hiroshima and Nagasaki by nuclear weapons built at Los Alamos, the lab has been the poster child of ban-the-bomb activism from the political Left, and from the lab's inception there have been calls to close it or at least terminate its nuclear weapons activity. From the political Right come the angry questions: "Why is there such a thing as 'academic freedom' *at all* in a bomb factory? Why are *any* foreign nationals anywhere near the security fence?" The attack from the Right has its roots in the earliest days of the cold war, because Klaus Fuchs, a British scientist at Los Alamos, passed nuclear secrets to the Soviet Union near the end of World War II. From the Right, the code words "culture" and "campus atmosphere," as applied to LANL, carry with them negative connotations of an anti-intellectual bias.

In the late 1990s, the Republican congressional leadership attempted to pin whatever kind of Red Chinese spy connection they could on the Clinton administration. During that time, a Chinese double agent passed to the CIA a crude drawing of a nuclear device designed at LANL. Wen Ho Lee, a naturalized US citizen from Taiwan working in LANL's nuclear weapons design division, was suspected of being a spy for the People's Republic of China and was arrested. After he had served nine months in solitary confinement, the government's case against him (not for espionage, but for 59 counts of mishandling classified material) unraveled, and he pled guilty to only one count. The presiding judge issued an apology to Lee from the bench on behalf of the government; by that time, the Democratic administration had become willingly mired in the affair along with the Republicans. The rest of the story, however, received far less media coverage than that original LANL "spy scandal." Evidence now in the public domain shows that almost certainly any classified information leaked to China did *not* come from LANL.

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Total recordable cases of occupational injury and illness per 100 person-years at a number of US Department of Energy laboratories and at DuPont. The nationwide averages for the chemical and manufacturing industries for the years 1993–2003 are also given. The data were obtained from LBNL (<http://www.lbl.gov/ehs/oaa>) and DOE (<http://tis.eh.doe.gov/cairs>).

In 2000, after the Wen Ho Lee incident and while a forest fire ravaged the town of Los Alamos and the lab site, two computer hard drives with significant classified information on them were discovered to be missing. After intensive, aggressive investigation by the FBI, including late-night polygraph exams of suspected workers, the drives mysteriously showed up behind a copying machine in the lab's secure exclusion area—where highly classified work is done—although they could have simply been overlooked in earlier searches. No one was ever charged with mishandling the drives; moreover, it is highly unlikely that any classified material was ever compromised.

Then, in 2002, accusations by two lab investigators surfaced in the media that millions of dollars of fraudulent purchases had been made at LANL; the investigators claimed that corruption at the lab was rampant. (See *PHYSICS TODAY*, February 2003, page 22.) In 2003, a lab manager and his associate were indicted for fraud, allegedly for \$300 000 in illegal purchases. In mid-October, they pled guilty and were held accountable for between \$120 000 and \$200 000. Thorough investigations were conducted independently by LANL, UC, and DOE, all of which claimed the amount of questionable or inappropriate transactions was less than \$15 000, compared to LANL's total annual budget of \$2.3 billion.

In view of this recent history, one is forced to ask: Do the data, such as the safety data presented here, indicate a widespread "culture of academic arrogance?" If not, does it make sense for lab management to have shut down *all* the operations at the lab? Reports in the media eventually told us the security incident that triggered the shutdown most likely was neither espionage nor a case of lost classified data. Instead, inventory procedures may have simply received insufficient attention. Similar incidents of missing classified removable electronic media at SNL and at DOE's Albuquerque office have occurred in the past year, without terms like "academic cowboy culture" having been invoked. National security has suffered demonstrably because of the shutdown at LANL. In the short term, the loss of more than two months' productivity has cost hundreds of millions of tax dollars; moreover, the climate of blame, suspicion, and zero tolerance for errors has been devastating to the morale of the scientists at the lab. More worrisome than these short-term losses are the long-term chilling effects on science that may well discourage high-quality new hires, provoke an exodus of talented young scientists, and accelerate the retirement of seasoned staff members who could have served as valuable mentors. The damage to LANL and to the country from this shutdown could be incalculable. ■



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