

Los Alamos Workers Debate the Lab's Safety, Morale, and Leadership

As the division leader for health, safety, and radiation protection at Los Alamos National Laboratory (LANL), I am well aware of public discussion about the laboratory's safety record and the reasonableness of last summer's decision to suspend activities here (see Brad Lee Holian's Opinion piece, *PHYSICS TODAY*, December 2004, page 60).

Director G. Peter Nanos said that he suspended operations because he had little confidence that, as an institution, we had sufficiently identified and addressed our risks and potential vulnerabilities. Critics have argued that LANL's safety record was good enough, and they therefore questioned the logic underlying the director's actions.

In my opinion, LANL's safety record is not good enough. The laboratory collectively, and all employees individually, must redouble their efforts to embrace a safety mindset, reduce safety incidents, and strive for a best-in-class record that is immune to debate.

Like most statistics, those relating to safety can be presented in many ways to support just about any message, and a number of attendant complexities are difficult to completely analyze.

The Occupational Safety and Health Administration's standardized total recordable injury rate, the number of injuries per 100 person-years worked, establishes uniform categories of injuries that allow for comparison of safety rates of businesses that represent the same type of industry and organizational size.

In July 2004, the Department of Energy's average injury rate for its 27 research contractor organizations was 1.7, compared to LANL's rate of 1.9. While these data indicate that Los Alamos accident rates hover around the mean for DOE research contractors, it also indicates that we

are far from best-in-class. Also, though LANL's injury rate improved dramatically between 1996 (6.0 injury rate) and 2001 (1.5 injury rate), over the past few years our rate of improvement has not just stagnated, but actually reversed.

As a nuclear laboratory, LANL bears an enormous public trust. Society tends to tolerate accidents resulting from familiar causes such as construction or driving; at the same time, society is intolerant of accidents at a place where the hazards are unfamiliar and potentially catastrophic. The public holds the laboratory to a very high standard of safety, and it's our job to meet that standard.

In scientific research, we content ourselves with nothing less than best-in-class. Why would we settle for anything less in safety when the stakes—the health and lives of our employees—matter even more?

In hindsight, the statistics paint a revealing picture about safety at Los Alamos. But in the midst of July's crises and turmoil, what drove Nanos's decision was a very real concern: his regard for each and every employee, and his knowledge of the human toll that any safety incident takes.

Lee McAtee

(jlm3@lanl.gov)

*Los Alamos National Laboratory
Los Alamos, New Mexico*

Since 1996, I have served as a safety consultant to Los Alamos National Laboratory. In that capacity, I have provided guidance to senior executive team members, two past laboratory directors, and the current director. I have also provided safety training for laboratory staff and management.

The laboratory exists within a complex nuclear industry with extraordinarily high consequences for error; as a result, the public demands nothing less than this institution's total commitment to achieving the best safety and operational records possible.

There is a simple rationale for Director Nanos's standard and expectation of excellence in all things: The higher the hazards and risks of

an operation, the more important it is to develop the highest standards for operating procedures and performance, and to implement those standards consistently.

It's easy to become complacent about safety. "Experts" fall into the trap of expertise: As they become more familiar with safety hazards, they perceive the risks as being lower than they really are. Such underestimation leads, in turn, to a false sense of confidence and the gradual erosion of standards. The result? Safety loses its prominence and preeminence, and individuals fail to focus on the big-picture priority of safety.

The consequences of anything less than a full commitment to excellence in safety are clear and often tragic. Certainly, in a culture of excellence, there is no room for carelessness with, or willful disregard of, important standards and processes. But on a more fundamental level, data points on an injury and illness chart represent human beings and pain and suffering for them and their families.

Organizations that succeed in achieving greatness do not shy away from looking at the hard facts, but instead confront those facts and use them to drive continuous improvement. Here, in my view, are the hard facts about safety at Los Alamos:

► The laboratory's safety performance is good. Everyone working at the laboratory, and those who support it, should be proud of that record. However, 250–300 significant injuries still occur each year. That situation must improve, and I cannot imagine a reason for not working hard to make that improvement happen. Safety excellence requires it.

► For about four years, the laboratory's safety performance has been on a plateau. This stagnation is inconsistent with the continuing performance improvement achieved by both private industry and the Department of Energy during the same time period. One hallmark of an excellent organization is continuous improvement in results. Because results follow systems, the laboratory must improve its safety systems if it is to improve its safety results.

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