NUCLEAR SAFETY

Was Argonne Whistleblower Really Blowing Smoke?

Tension between scientists and lawyers is on the rise at one federal lab as a result of a recent Department of Energy (DOE) investigation of staffers at the Argonne National Laboratory near Chicago. In the past, DOE Tiger Teams have clashed with lab folk over enforcement of safety and health codes. Now the battle is joined on the definition of good and bad science. Officials at DOE headquarters in Washington, D.C. (the lawyers) say that scientific dissent was being suppressed at Argonne. Argonne's director Alan Schriesheim vehemently disagrees.

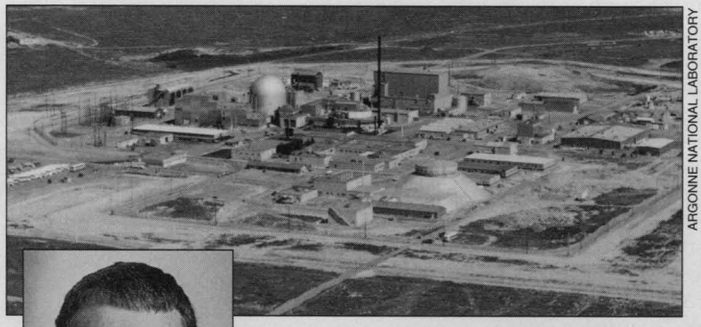
The case that brought these issues to the fore last week involves a "whistleblower" named James Smith, a former assistant engineer at the Argonne National Laboratory's western branch near Idaho Falls, Idaho. Smith, now a technical writer, left the lab by mutual agreement in 1990, but only after he had cast doubt on the work of several senior scientists. Specifically, he charged that a consultant and staffers had used inaccurate data on the metallurgy and thermochemistry of fuel being designed for an experimental breeder reactor. Smith also claimed the errors might endanger public safety.

In the furor that ensued, Smith became an official whistleblower, saying he had been forced out of his job at Argonne. Federal law provides special protection for such people. This month, for example, Secretary of Energy Admiral James Watkins put into effect a new rule that, he said, will encourage "contractor employees to identify problems, seek resolutions, and come forward with information" if they think they have evidence of "unsafe, unlawful, fraudulent, or wasteful practices." Smith's charges prompted DOE to launch a whistleblower inquiry; it ended in December with a confidential report that backed Smith.

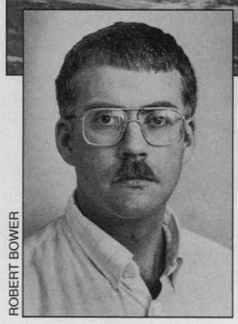
Schriesheim protests. The case went public when DOE released its report on 2 April and Argonne countered by releasing an angry, 14-page letter from Schriesheim to Watkins. Schriesheim wrote the protest 4 months ago, arguing that DOE had gotten the facts wrong but kept it confidential until a week ago to let DOE speak first.

In his letter, Schriesheim takes DOE to task for supporting Smith's "unjustified" charges and he characterizes Smith as someone inclined "to pursue his irrelevant obsession." The DOE report, Schriesheim fumes, will be used to "castigate" Argonne's scientific staff and "question its credibility in dealing with issues of quality assurance and safety in the reactor development field."

Even though Argonne's scientists think DOE is mistaken, they are toeing the line administratively, carrying out all the recommendations made by the report. Its authors, the investigative staff of DOE's Office of Nuclear Safety, concluded in December 1991 that there were no apparently safety hazards. But they scolded Argonne for sweeping Smith's criticisms under the rug. Argonne was too solicitous of top staffers, according to DOE, and the lab fostered a culture that "paid great deference to reputation and authority," while giving too little weight to technical criticism. DOE recommended that Argonne get an independent panel to resolve the technical issues, instruct staffers in "peer-review principles," and educate them about "whistleblower protection standards."



ARGONNE NATIONAL LABORATORY



ROBERT BOWER

Parted company? James Smith, Ph.D. metallurgist, left Argonne's Idaho lab under protest.

Schriesheim doesn't wish to comment on the case now, says Argonne spokesman David Baurac, but his letter speaks for him. It argues that Smith "did not reveal any fundamental errors" in analytical work at Argonne, that the lab management was always "attentive to Smith's technical concerns," and that his claims about safety problems and scientific error were "without substance."

At the heart of the dispute is the question of who is more credible on several very narrow points in metallurgy that might later affect the licensing of breeder reactor fuel of the type Smith was working on. For example, one quarrel concerned a diagram representing the activity of zirconium in metallic fuel at various temperatures. Smith took issue with a chart presented at a technical meeting by Mysorc Dayananda of Purdue, an international expert in thermal diffusion with 25 years' experience in his field, who was serving as a consultant to Argonne on fuel design. According to DOE, Smith noticed an error that showed a "spurious" rapid increase in activity for zirconium between temperatures 580 and 595 degrees Celsius. When Smith challenged it, Dayananda conceded that the jump in activity on his chart had been generated by a computer model based on theory rather than empirical evidence. But he continued to use the chart, because no experimental data were available and because the research was only at an early stage. Smith argued that this was a form of "scientific misrepresentation."

Contacted by *Science*, Dayananda said he couldn't recall the dispute in detail. He did say, however, that his work had been presented only in a "preliminary form," and that Smith had made a "mountain out of a molehill." The DOE investigative squad reached a different conclusion: Smith was correct in pointing out the error, though DOE declined to rule on whether Dayananda had engaged in misrepresentation of scientific data. To clear the air, DOE asked Argonne to follow up with an independent technical review. A panel of three experts gave a final judgment in February: Dayananda's methods are "well accepted in the diffusion community," the panel noted, and he had presented his chart only in the form of a progress report. Yet the panel said the chart "should not be, and [Argonne] management has stated it has not been, used in any further analyses."

There were two other instances in which Smith took issue with senior staffers on technical issues and was rebuffed by his superiors at Argonne. He has now been at least partially vindicated on both.

Did these issues deserve the big inquiry they got? Robert Simon, deputy director of DOE's office of energy research, offers a careful answer. The technical disputes, he concedes, were "in some cases not terribly straightforward." They appear to be "differing professional opinions" of the kind that come up all the time in science. But Simon argues that it was good to have them investigated thoroughly, to "lay [Smith's] concerns to rest," for Argonne had not done this on its own. The fact that DOE put a substantial effort into it "tells you something about the way the department treats whistleblower-type issues these days," says Simon. "We take them very seriously."

–Eliot Marshall