GENETIC ENGINEERING

Safety Concerns Halt U.K. Study

LONDON—For Britain's national press, it was the perfect science fiction nightmare: "Lab shut down for fear that common cold virus engineered to carry cancer genes will escape," ran the headlines last Friday. The headlines were prompted by the disclosure that a top-rated cancer research project had been halted by British government safety inspectors because researchers were using inadequate containment procedures.

Administrators at the University of Birmingham, where the research was taking place, maintain that the risk of infection was negligible. They note that few of the reports in the popular press included the detail that the virus was disabled, so could not replicate inside human cells. Other researchers, however, have expressed surprise at the lack of security at the lab. And for scientists throughout Britain, the episode carries a warning: The British government is committed to strict enforcement of a new law governing use of genetically modified organisms in the laboratory.

The project, headed by Phillip Gallimore in the university's Department of Cancer Studies, was investigating an oncogene from a simian virus known as SV40. To ferry the gene into human cells, the team had inserted it into a member of the adenovirus family—a variant of the common cold virus that infects the upper respiratory tract in humans—which had been crippled by removal of one of its own genes, so it could not reproduce. The altered adenovirus was then used to infect human cells in culture. Gordon McVie, scientific director of the Cancer Research Campaign, one of Britain's largest cancer research foundations which is supporting the project with $360,000 a year, says it is "at the cutting edge of cancer research."

However, the conditions in the lab failed to satisfy the government's Health and Safety Executive (HSE). In December, HSE inspectors served both Gallimore and the university with "prohibition notices," ordering them to cease work on the project until the laboratory's containment facilities had been improved. An HSE official says: "The area where this work was going on had too many people passing through it. We felt it should have been a restricted area, to which only authorized personnel should have had access. More specifically, their containment system was not up to standard." The lab, where about 10 people work, has not been closed down, but the department has been given until April to audit all its containment facilities and to bring its equipment up to the recommended levels.

Gallimore's team has been working on this project since 1989. Last year, when the Genetically Modified Organisms (Contained Use) Regulations 1992 came into force, he was required to re-notify the HSE about the research. Unlike the law they replaced, the new regulations require researchers to get approval from the HSE before they start their experiments. The HSE was unhappy about the precautions the Birmingham team said they were using and exercized its power to inspect the lab. The prohibition notice is the first to be served under the new regulations.

The university and the Cancer Research Campaign have been quick to emphasise that the work posed a "vanishingly small" risk. Says McVie: "The inspectors said that there was a risk that someone could inhale a virus engineered to carry the gene, which could infect one cell. It could not do more than that. To cause any harm, that cell would then have to divide to form a clonal tumor, and the chances of that are negligible."

But other researchers have been critical. Bristol University microbiologist John Beringer, who chairs a government advisory committee on the risks of releasing genetically modified organisms, says: "There are very clear guidelines as to what is required, and for me it was a big surprise that the lab was not up to standard, and that the internal safety committee at the university had not properly assessed the status of the lab."

David Westbury, vice principal of Birmingham University, says the project had gone through a self-assessment process by both the scientists involved and the university's safety officer. "I think the judgment that was made initially in the self assessment has proved to be lacking but that has now been corrected," he says.

–Sharon Kingman

Sharon Kingman is a science writer based in London.

DEPARTMENT OF ENERGY

National Labs Under Review, Again

The Department of Energy (DOE) is forming an outside task force to take yet another look at whether some of its national laboratories should be consolidated or closed. Previous studies have recommended relatively minor adjustments in the labs' operations. But this will be the first major examination of the labs since the end of the Cold War, and this time Energy Secretary Hazel O'Leary is under pressure to make some substantial changes in her empire of 10 multipurpose labs.

"Every administration sets up a panel to review the national labs," said Nicholas Samios, director of Brookhaven National Laboratory, at a White House-sponsored meeting on science policy last week. "The problem is that nothing is done." Jack Gibbons, the president's science adviser, holds a similar view. Asked whether the new panel was likely to consider a major realignment of the labs, Gibbons replied, "They'd better. We're sure not interested in just going through the motions again."

The new task force will be chaired by Robert Galvin, the former head of Motorola, who has a long record of advising the government. (Most recently, Galvin was cochair of the 1992 Commission on the Future of the National Science Foundation.) Other members of the task force include Nobelist Henry Kendall, a physicist at Massachusetts Institute of Technology, and Linda Capuano, an executive with Conductus, a Sunnyvale, California, superconductor company.

Last week, in announcing the task force, O'Leary sounded a cautious note. The DOE labs represent massive federal investment in science and technology that would cost an estimated $20 billion to replace today, she said. "Some would say: 'There's too many labs. Let's close some,'" she said. "I'm not sure that's the answer. Before we focus on closing, we should focus on what the labs produce and at what cost."

One DOE insider who has been involved in previous reviews thinks O'Leary may be using the commission to head off pressures to close some labs. In such times, he says, "you want to get in front of the politics. Commissioning its own analysis gives DOE some control over the process."

Congressional staffers say, however, that there's a growing mood in Congress that DOE's research network—in particular the three large labs that design and build nuclear weapons—no longer meets national needs. On the same day O'Leary announced formation of the DOE task force, Representative Mike Kreidler (R–WA) proposed a lab closing commission modeled after the Military Base Closure Commission, which has closed some 70 military bases. And last fall, a budget-cutting bill that would have trimmed DOE's lab budget by 25% was defeated by only four votes in the House of Representatives; a similar but smaller version is pending as a way to pay for the cost of repairing California after the recent earthquake.

O'Leary has given the Galvin panel a year to complete its work. The schedule suggests she is betting its deliberations won't be overtaken by political events.

–Christopher Anderson