Lab Chief's Memo Stirs Unease at Illinois

For almost 20 years, the Army Corps of Engineers' Construction Engineering Research Laboratory (CERL) has enjoyed close ties to the University of Illinois, on whose Urbana-Champaign campus it resides. But in late July, those links seemed in danger of becoming unraveled when the lab director, Colonel Paul J. Theuer, engaged in a short-lived but heavy-handed effort to shut off collaboration between CERL and any university scientist who had publicly opposed the "Star Wars" program.

On 14 July, Theuer sent a memo to Louis Shaffer, the technical director of the lab, stating, "I want the word put out 'loud and clear' that NO USA-CERL projects or official relationships will be continued or conducted with those aspiring to separate themselves with the 'star wars' program—an Administration program. As part of the Executive Branch, we have to support the President. This includes any initiatives with Smarr and the Super Computer Center—it stops."

Theuer's target was a group of Illinois scientists who signed a statement pledging not to "apply for or accept" research grants from the "Star Wars" program because of political and technical concerns (*Science*, 26 July, p. 367). The group includes Larry Smarr, director of the National Center for Supercomputer Applications at the university, and 52 of the 72 regular members of the Illinois physics faculty.

Theuer's memo was leaked and widely publicized on campus on 25 July. The following day, Theuer and University of Illinois Chancellor Thomas Everhart attended a ground-breaking ceremony for a new CERL facility, and Everhart raised the matter privately. Theuer subsequently sent a second memo to Shaffer, for distribution to division chiefs at the lab, stating that the earlier memo was based on an "incomplete" newspaper account of the opposition to the "Star Wars" program. "I want to make it crystal clear that I do not wish to cut or in any way diminish our relationship with the University of Illinois," the second memo stated. The budget for CERL is about $34 million a year, about 25 percent of which goes to the university in one form or another.

In a telephone interview with *Science*, Theuer said his first memo was discussed at a meeting with senior staff at CERL on 15 or 16 July, and "it was agreed we would not take such a harsh position." He said the matter was dead at that point, and was surprised when the earlier memo surfaced later on. When asked why he wrote the memo, he said "I acted on what I considered at the time to be the policy of the Executive Branch. I was 180° out of phase."

Theuer says he has no desire to diminish relationships with university faculty, collectively or individually, and he appears to regard the matter as a tempest in a teapot. University officials also believe the issue is now resolved.—**COLIN NORMAN**

Agracetus's Sojourn in the Regulatory Maze

Applications to field test biotechnology products are making their way through uncharted regulatory waters of the federal government and the going has been slow. Academic and industry researchers are encountering a lot of fog and a few rocks, given that the various agencies are still sorting out how to review these applications.

A case in point is an application by Agracetus, a biotechnology company owned jointly by W. R. Grace and Cetus, to field test tobacco plants made disease-resistant by genetic engineering. A year ago, the proposal was approved by the Recombinant DNA Advisory Committee of the National Institutes of Health (NIH). But then several federal agencies decided to divvy up the responsibilities of reviewing biotechnology products. As a result, the Agracetus application also went to two divisions within the Department of Agriculture.

Then a federal court ruled that NIH must require an environmental assessment of these types of experiments. So NIH, even though it only has authority over federally funded researchers, told Agracetus that it should submit an environmental assessment. Agracetus complied.

As things stand now, one of the Agriculture Department agencies, the Animal and Plant Inspection Service, has concluded that it does not have jurisdiction over the experiment. The other department review group, which is part of the Agricultural Research Service, has informally told NIH officials that if they do not have any problems with the experiment, then Agriculture does not.

NIH staff recently recommended approval of the experiment to director James B. Wyngaarden. But it may be another month or more before a final decision is made. Wyngaarden will probably want to check with the Agriculture Department, the Food and Drug Administration, the Office of Science and Technology Policy, and the Environmental Protection Agency "to make sure NIH isn't stepping on someone else's toes," an NIH official said.

(A few other research groups have ventured into the regulatory maze. For 2 years, researchers at the University of California have been awaiting permission from NIH to field test modified bacteria designed to prevent frost formation on crop plants. Although the proposal has been approved by the NIH committee, it is still waiting for a green light from the court concerning NIH's environmental review. EPA still has to approve the test, too.)

Agracetus vice president Winston J. Brill said that the purpose of the company's application is twofold. The proposed experiment will test a model system. Agracetus is not planning to market disease-resistant tobacco plants, Brill said. The application is also "to learn how to handle the government and how the government handles us. It's been a very frustrating experience," he said.—**MARJORIE SUN**

Johns Hopkins Drops MCAT Requirement

Johns Hopkins University School of Medicine has become the first major medical school to announce that it will no longer require applicants to take the Medical College Admissions Test (MCAT).

The move is being taken in an attempt to end the "premed syndrome" that is driving students to premature specialization and an overemphasis on science to the detriment of general

education. According to Johns Hopkins dean Richard S. Ross, preparing for the MCAT has become a process that has been "distorting the premed curriculum grossly." Students even drop out of college for a semester to take cram courses for the exam.

The new policy, which goes into effect for September's entering class, follows by 3 years the introduction of "FlexMed," an admissions program that allows students to enter as early as their junior year in college and to take time off to pursue studies in the humanities.

The MCAT is required by 124 of the 127 American medical schools, according to the exam's sponsor, the Association of American Medical Colleges (AAMC). Ross notes that since the average student applies to eight medical schools, the policy won't have much effect until others follow suit. He is planning to hold a meeting with some deans in the fall and is seeking the establishment of a consortium that will agree on a uniform set of minimal science requirements for entering students.

Many see the MCAT as contributing significantly to the dehumanizing aspects of medical school by favoring the more narrowly focused, competitive-minded students. Furthermore, according to Norman D. Anderson of Johns Hopkins (in the *New England Journal of Medicine*, 9 February, 1984), there are no data indicating that MCAT scores correlate with either clinical performance in medical school or later success in medical careers.—**CONSTANCE HOLDEN**

Recurring Problem Caused Shuttle Engine Shutdown

The shutdown of the space shuttle Challenger's center engine midway through its 29 July ascent will not affect the schedule of forthcoming shuttle flights, set for August and October. Officials of the National Aeronautics and Space Administration (NASA) say they plan to replace faulty temperature sensors on the shuttle's engines with a redesigned device.

The sensors, called "transducers," are mounted on the rocket engines' high-pressure hydrogen and oxygen pumps. They have been blamed by NASA officials for the shutdown of Challenger's number one engine and the near shutdown of its number two engine. Other data examined by NASA indicate that the engines were operating flawlessly, says Gerald Smith, chief of the shuttle's main engine office at NASA headquarters in Washington.

Challenger's computer killed the number one engine in response to signals showing that the high-pressure hydrogen fuel pump was overheating—operating at temperatures between 1850° and 1950° Fahrenheit. The engine shutdown occurred 6 minutes into the flight, allowing the shuttle to reach an orbit of 195 nautical miles, far short of the 380-mile orbit that was desired to carry out some solar experiments.

The same sensor has failed in 9 of 19 missions, but never before has the prime sensor and its backup failed on the same engine. NASA began working on a redesigned sensor more than a year ago. The first of the second-generation transducers will be installed on the next shuttle flight later this month.

Because only a limited number of sensors may be available from the supplier, Rosemont, Inc. of Minneapolis, Minn., first-generation sensors could remain on high-pressure oxygen pumps for the next few flights. NASA, however, notes that there has been only one malfunction of the sensor on oxygen pumps—largely because the operating environment is less hostile.

It is the hot, high-temperature operating climate of the high-pressure hydrogen pump that NASA officials believe caused the sensor failure. These sensors are not replaced before every flight, but NASA officials say they are inspected and tested prior to every launch. The sensors are replaced after every four flights.

Of the 13 experiments conducted on Spacelab 2, one gave scientists real trouble. The solar magnetic and velocity field measurement system suffered from a malfunctioning polarimeter that quit on the first day. It began working on Sunday, 2 days before the flight terminated. Still, NASA says the experiment did obtain good three-dimensional images of solar features.

The Instrument Pointing System (IPS), built in West Germany for the European Space Agency to precisely focus solar detectors on the sun, also had problems functioning. NASA officials overcame the glitches by reworking computer software. In the first few days of the mission, scientists got data from three of four solar experiments by bypassing the IPS.

—**MARK CRAWFORD**

Hughes Names Five Vice Presidents

The Howard Hughes Medical Institute (HHMI), now the wealthiest private philanthropy in the country, has just appointed five vice presidents who will be responsible for Hughes' medical research programs and for overseeing the investment of the vast resources the institute gained with the recent sale of the Hughes Aircraft Company to General Motors for more than $5 billion (*Science*, 7 June, p. 1178). HHMI president Donald S. Fredrickson, former director of the National Institutes of Health, says the new appointments attest to Hughes' commitment "to be in the forefront of medical research and to assure the stewardship of its endowment."

Purnell W. Choppin, who has been vice president for academic programs and dean of graduate studies at Rockefeller University, will be the chief scientific officer for HHMI. (Lloyd H. Smith, Jr., is head of the institute's medical advisory board.)

George Francis Cahill, who will retain his title as a professor at Harvard Medical School, will join HHMI as vice president for scientific training and development.

HHMI's chief legal officer will be David J. Taylor, formerly a general partner with the law firm of Schiff, Hardin & Waite. In addition to his legal interests, Taylor is head of the Bordeaux Wine Society in Washington.

Robert C. White, who was with the Ford Motor Company for 35 years, where he most recently was corporate assistant treasurer, will be HHMI's chief financial officer.

And Graham O. Harrison will join the institute as chief investment officer. Graham was with U.S. Steel for three decades, where he managed the company's $7 billion pension fund.

—**BARBARA J. CULLITON**