

UGC officials acknowledge that there "may have been a tendency" for applied geology departments to lose out in the review process. But they say that this was because their primary concern has been to ensure that all departments that remain—including those emphasizing applied disciplines—maintain firm roots in basic research.

The biggest outstanding issue, however, and one which appears destined to play an even more important role in future decisions about university physics and chemistry departments—both disciplines are currently under review by the UGC—is the extent to which individual departments should be evaluated in isolation from their institutional context.

"Many vice-chancellors are concerned that the review was carried out primarily at the departmental level, and not enough attention was paid to the interaction between earth sciences and other subjects," says Michael Powell of the Committee of Vice-Chancellors and Principals.

Partly in response to such criticism, the UGC has now announced that its reviews of

chemistry and physics departments—both of which are widely expected to result in proposals to concentrate teaching and research resources, with perhaps the closing down of some weaker departments in both subjects—will be decided in close consultation with each other.

Physicists, for example, are already planning a defense against excessive rationalization by claiming that the elimination of a physics department in a university could have an impact on the perceived status of engineering or computer departments in the same institution.

"I think there would be general skepticism in the engineering profession toward the graduates of institutions that did not teach physics," says Derek Martin, professor of physics at Queen Mary College, London. Martin is chairman of a committee that has produced a report for the Institute of Physics warning that concentrating future expansion on the largest physics departments could threaten the existence of smaller departments in half of Britain's universities—and that this would be a "calamity."

■ DAVID DICKSON

345. The company had planned to produce 20 million pounds of ammonium perchlorate this year, and the only other U.S. supplier, the nearby Kerr-McGee Chemical Corp., planned to produce 32 million pounds. Kerr-McGee's factory is located near a densely settled area. After the explosion, residents and the chemical workers' union leaned on state officials to close the Kerr-McGee plant pending a safety check. Bowing to public sentiment, the company shut down on 12 May and agreed to pay for an independent review.

The results came in on 26 May and, according to Henderson City Manager Gary Bloomquist, they were not favorable. The company was criticized, among other things, for failing to store chemicals properly and not having markers on the shut-off valves for the gas and ammonia lines. Kerr-McGee spokesman Paul Reed says that all the necessary changes can be made in a "matter of days rather than weeks." Bloomquist is skeptical.

The Air Force expects Kerr-McGee to receive a clean bill of health in early June and resume production. Reed says the company can increase output to 40 million pounds "without a great deal of heartburn." Even so, it probably will not be able to take up the slack fast enough to avoid a shortage next year.

Meanwhile, the accident has focused attention again on the shuttle's limitations as an all-purpose vehicle. It takes about twice as much ammonium perchlorate to launch a tracking and data relay satellite (TDRS) aboard the shuttle as on a Titan rocket. However, General Moorman said that it would not be a good idea to shift cargoes at this point. Remaking satellite hardware to fit other launchers would be expensive, and the change would play havoc with existing schedules. Most Titan rockets have already been spoken for. ■ ELIOT MARSHALL

A Fuel Shortage in Space?

The explosion of a rocket fuel factory in Nevada on 4 May has created a "serious problem" that may bring on "substantial shortages for the next 2 to 3 years," according to Terry Dawson, a speaker at a recent symposium held by the Congressional Space Caucus. Several experts were on hand on 17 May to discuss transportation issues. The potential fuel shortage will tighten the already narrow margins of the U.S. space program.

Dawson, a staffer for the House subcommittee on space science and applications, said the loss of the Pacific Engineering and Production Co. plant in Henderson, Nevada, cut in half the U.S. capacity to make ammonium perchlorate, the oxidizing agent used in most solid rockets.

Another speaker, Major General Thomas Moorman, director of the Air Force office of Space Systems, confirmed that an inquiry has begun on the size of the looming shortfall. The Air Force chairs a committee that will rank users by priority and allocate supplies.

Ordinarily, the military would not take second place to anyone in a rationing scheme. But Moorman reassured the group that the Pentagon is aware of the needs of scientific and commercial missions. An effort will be made to share the pain equally. "This is not the top problem in space,"

Moorman said, "but the one we seem to be spending the most time on."

The crunch will not be felt immediately because rocket companies keep enough fuel on hand to last 6 months to a year. For example, Morton Thiokol, maker of the solid rockets for the shuttle, reports that it has supplies to last through a major ground test and four shuttle flights. But if production is not increased, Thiokol and other users will feel a pinch next year.

The Pacific Engineering factory was totally destroyed, killing two people and injuring

Burning rocket fuel
blackens the sky over Henderson, Nevada, as half the ammonium perchlorate capacity in the United States goes up in smoke after a fatal accident.



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