# Problems at Parachute Creek

The Union Oil Company is trying to put the best face on breakdowns and accidents at its brand new shale retort near Parachute Creek, Colorado. These nuisances aren't even problems, said company spokesman Barry Lane in a telephone interview, just "routine items one would expect to encounter in a project of this magnitude."

Lane confirmed a point that Denver environmentalists have been pressing for some time—that wastewater ponds at the site have become highly acidic. Union maintains that the acid comes primarily from rainfall runoff, not from within the retort, as critics believe. The ponds aroused new controversy recently because two employees checking on acid levels on the night of 6 December slipped on a plastic liner, fell into the water, and drowned. A medical examiner reportedly found the water in the victims' bodies to show an extremely low *p*H level. The Occupational Safety and Health Administration (OSHA) has begun an inquiry, but there is no plan to release a public report.

In a sense, the Union retort in Colorado represents the brightest hope of America's synthetic fuels campaign. It certainly carries one of the biggest investments. Union already has received a government price guarantee worth $400 million and, as a result of action taken by the Synthetic Fuels Corporation (SFC) in December, is due to get a contract for federal price guarantees worth $2.7 billion, the largest pledge yet made by the SFC.

According to spokesperson Karen Hutcheson, the SFC board planned to discuss Union's contract on 16 and 24 February, but adjourned without doing so. The case will probably come up at the next meeting on 15 March. Friends of the Earth, an environmental group, has asked the SFC to make a special inquiry because, it argues, $4.9 billion is now riding on this particular retort. Another project at Cathedral Bluffs, Colorado (backed by Occidental Petroleum, Tenneco, and Peter Kiewit and Sons, Inc.), plans to use Union's technology and has already received a pledge of $2.2 billion in price guarantees from the SFC. Cathedral Bluffs is expected to sign a contract with the SFC shortly after Union does. At present, the SFC is not planning a new investigation.

Before the recent setbacks, Union had said its retort would begin running in December of 1983. But only a few days after the SFC approved the $2.7-billion commitment, the company announced that it was having trouble and would not meet its December start-up date. Lane declined to describe the troubles in any detail, for the company wants to protect proprietary information. "We don't feel it's necessary to give day-by-day, blow-by-blow reports on the plant," he said. Indeed, Union gives no forecast now on when the retort is likely to begin running.

According to Kevin Markey, who dogs the project for Friends of the Earth in Denver, "It's easier to divine events in the Kremlin than to pierce the veil of secrecy at Parachute Creek." The Environmental Protection Agency is excluded by law from involving itself in SFC-backed projects. And Union, according to its spokesman, believes that federal monitoring of environmental effects does not begin officially until the plant is running.

Based on "our admittedly inadequate information," Markey says, the main problem appears to be that mechanical parts in the retort are jamming up in the thick, asphalt-like by-product of the retorting process. (This by-product is not meant to be so sticky.) As a result, some of the equipment must be redesigned, remade, and reinstalled. Meanwhile, Markey believes, sour water or retort waste—which is supposed to be treated in the still-idle oil upgrading plant—may be making its way into the huge holding ponds. To keep the ponds within permitted acid standards, company employees have been treating them with caustics.

Markey says that many people who have been at the site claim to have detected the odor of sulfides coming from the wastewater, suggesting that something is seriously amiss in the retort, and that wastes are being dumped. This is not so, according to Lane; the company is obeying all relevant environmental laws. Reports to the contrary, in his view, are merely "rumor and speculation."—**ELIOT MARSHALL**

then have a firm estimate of its revenues over the next few years.

Initial response to the new contract has been favorable. In the first month after it was unveiled, Duke Power signed on with orders worth more than $2 billion over the next 30 years, and almost half DOE's customers expressed their intent to convert. But even so, DOE projects that its revenues will drop from $2.1 billion this year to $1.675 billion in fiscal year 1985.

Even under the most favorable assumptions, the revenues are unlikely to cover the cost of the ambitious construction and R & D program that DOE laid out in the 1970's. GCEP alone would have cost nearly $10 billion by the time it was finished in the late 1980's. DOE officials were therefore faced with two alternatives: either scale the program back drastically or try to persuade the Office of Management and Budget (OMB) and Congress to approve an operating deficit for a few years. There was little chance OMB would go along and even less that Congress would agree, so the knives were sharpened.

But more than simple cuts are being considered. When it was first approved, GCEP was envisaged as a massive complex of eight process buildings, each housing thousands of centrifuges. By the early 1980's, it was recognized that the original justification for building GCEP had vanished because DOE's three existing enrichment plants have more than enough capacity to meet projected demand until the end of the century. But construction continued because DOE changed the justification. In essence, it argued that because gas centrifuge technology is much less energy-intensive than the gaseous diffusion process employed in the existing plants, GCEP was needed to replace some of its aging facilities and hold down costs in future years.

Two of GCEP's process buildings and most of the central control and fuel-handling facilities have already been completed, and late last year the first centrifuges were installed. But DOE has now thrown the project into a lower gear. Plans for constructing the remaining six process buildings have been deferred, and DOE is committed to filling only half the first building with current-generation centrifuges. What happens next will depend to a large extent on whether DOE chooses to develop either advanced centrifuges or an entirely different technology based on lasers.

In the early 1980's, DOE began to pour money into the development of an advanced centrifuge with three times the efficiency of the machines now being