

Uranium Mining: Doubly Risky

Miners die while Federal officials wrangle over safety standards.

Of the 10,000 men who were ever employed in underground uranium mines before the start of this year, lung cancer has killed 98 and is almost certain to kill 431 more.

Their deaths, according to acting Surgeon General Leo J. Gehrig, will be due to years of breathing radioactive dust. Their lungs become saturated with radon daughters—particles formed in the decay of radon gas in the rock—which riddle the sensitive tissue with alpha rays, causing the cancers.

If a new labor force of 2,800 moved into the mines today, 287 of them would die from exposure over the next 20 years if nothing were done to clean the air they would breathe.

These future deaths are preventable. On May 5, Secretary of Labor W. Willard Wirtz exercised his regulatory powers under the Walsh-Healey Public Contracts Act to do just that. In the face of a history of Federal inaction he established rigorous environmental radiation standards that, under the law, mine owners will have to meet once procedures are established, or lose all Federal contracts.

"The best available evidence," Wirtz declared, "is that over two-thirds of the approximately 2,500 underground uranium miners (today) are working under conditions which at least triple their prospects of dying from lung cancer. . . ."

After 17 years of debate and discussion of the problem, neither health and safety standards nor inspection procedures have been established for uranium mining, Wirtz told the Sub-



At the risk of lung cancer, uranium miners prepare to blast ore.

committee on Research, Development and Radiation of the Joint Congressional Committee on Atomic Energy last week.

His action and comments did nothing to endear him to a subcommittee already stinging from newspaper attacks on its inaction.

"There has been plenty of criticism of this committee in editorials and



Respiratory mask protects miner.

your standards would tend to increase this," Representative Chet Holifield (D-Calif.) advised him.

"I would strongly suggest that no mine owner can comply with your order or prove to you that he did com-

ply," the Congressman continued. ". . . what you're doing is closing down the mines. . . ."

The Secretary's standard, admittedly difficult to enforce, requires uranium mine owners to prove that their miners are breathing air containing no more than three-tenths of a working level of radon gas, or are working short hours to cut down their total exposure.

One working level, Wirtz explained, is a concentration of 100 pico-curies of radon in one liter of air. A pico-curie is a millionth of a curie, a basic measure of radioactivity.

Three-tenths of a working level, Wirtz explained, ". . . represents the maximum level of radioactive material to which a person can be exposed without . . . increased hazard of lung cancer above what we are all exposed to."

Whether the amount of such airborne radiation a miner is actually exposed to can be measured accurately is not certain. It has been this problem, and an attempt to set exposure levels that would balance safety with continued operation of the nation's uranium mines, that has delayed previous efforts at standard-setting.

The latest attempt by the Federal Radiation Council, a body established by President Eisenhower in 1959 to advise him on radiation safety, to resolve the conflicts came on May 4, the day before Secretary Wirtz acted.

Of the six agency and department heads on the Council, one, the Secretary of Health, Education and Welfare, showed up in person. No one came at

all from the Commerce Department. In a vote on the three-tenths standard proposal, three members were against it, two (including Wirtz's representative) were for it. The Department of Interior also approved it, though Interior is not technically a Council member.

Wirtz's standard will regulate the mines effectively for the present, but, with constantly increasing private processing of uranium ore, it will soon become useless since it depends on the government contract as a club. Other legislative authority must take its place, the Secretary warns.

"The ultimate question," he feels, "is whether an economic enterprise is to be required to satisfy the human values it affects or whether those values are



Looking for radon daughters.

to be compromised to serve the enterprise."

There is no excuse, he told the subcommittee, to "... warrant the deliberate condoning of an identifiable and preventable cause of death. . . ."

Atomic Black Market

The world boom in nuclear power reactors will soon create a supply of fissionable material—uranium 235 and plutonium—that will be hard to keep out of the hands of thieves, terrorists and powers that want to build their own atomic weapons.

Present safeguards will be inadequate to handle the future's bigger load, according to a report released last week by the Atomic Energy Commission. By 1980, atomic power plants will be producing 220 pounds of plutonium a day, enough for 10 A-bombs.

"Every effort should be made to in-

sure timely notification of the opening of black markets in the world for special nuclear materials. It is not clear that such markets exist today, although a panel understands that a 'fence' was involved in the recent theft of fuel elements (containing natural uranium) from the Bradwell Reactor in England" the report said.

The report, prepared by a special advisory panel, includes 13 separate recommendations to tighten the handling of the power-laden material.

Some aim at reducing the risk of nuclear material going astray in this country. Among the suggestions are stiffer punishment for theft of the material, security clearance for private industry personnel in sensitive positions, and AEC-administered rules for guarding material in privately-owned reactors.

But international controls worried the panel most. Here recommendations emphasize the role of the International Atomic Energy Agency, which has already begun inspection in several countries.

The IAEA will have to expand its staff—about a dozen employees, most of them short-term—if it is to handle the load. And its inspection will have to extend to chemical reprocessing plants as well as the research and power reactors now under its eye.

Most important, the IAEA will have to have worldwide recognition. The panel was encouraged that several Eastern European countries have said they would allow IAEA inspection, but was disturbed by the reluctance of the members of Euratom, the West European agency, to agree (SN: 5/13). Euratom has its own regional inspection system.

Draft Uncertain

In March, President Johnson asked Congress to rewrite the nation's draft laws with an eye to across-the-board fairness.

He accepted the recommendations of the National Advisory Commission on Selective Service (SN: 3/18) almost as they were sent to him, and passed to Congress proposals to lower the critical draft age to 19 and do away with postgraduate deferments for everyone except medical and dental students.

The Senate Armed Services Committee, however, is ignoring both the White House and picketers calling for an end to discrimination in drafting soldiers. It has refused to do more than recommend extension of the present draft law and wants deferments to ap-

ply to undergraduates until they receive their bachelor's degree or reach 24 years of age.

In a report recently accompanying its recommendation, the influential Committee also nudged President Johnson on postgraduate deferments. He intends to end them, by executive order, (SN: 5/6) except for medical and dental students. But in its report, the committee said it "recognizes that the President may find it necessary to extend postgraduate deferments to fields other than medicine and dentistry."

The details of the President's Executive order on deferments are still being worked out, says the Bureau of the Budget. But because the new deferment policy will affect students planning to enter graduate school in the fall, there is considerable pressure to get the policy reforms written within the next few weeks. Whether or not students in science fields other than medicine and dentistry will be deferred remains an open question.

NASA: Kick and Chop

In the latest Apollo episode, the National Aeronautics and Space Administration delivered a kick to the prestige and a karate chop to the moneybelt of North American Aviation, the spacecraft's builder.

First, NASA head James Webb announced last week, almost four months after the fatal spacecraft fire of Jan. 27, that the space agency was about to appoint a shepherd. The shepherd's job is to watch over future Apollo capsules and see that they work properly when mated to all the other Apollo lunar hardware, including the Saturn V booster. Ever since the program began, says Webb, NASA has been trying to give the shepherding job, called systems integration, to North American, which has by far the biggest share of the Apollo business. The contract was never awarded because the space agency never thought the company was up to the task.

North American has been in charge of integrating the three sections of the spacecraft itself, but the Saturn V booster has been in the hands of the Boeing Co., builder of the rocket's powerful first stage.

NASA now plans to give Boeing the task of integrating the entire package, including spacecraft and booster. Though the dollar value of the contract will not be large as Apollo costs go, it represents a deliberate slight to North American's management, which before the spacecraft fire had gotten along with no suggestion from the space agency that such supervision would be necessary.