

RESOURCES & ENVIRONMENT

will net them comparatively little in taxes and royalties.

If faster energy development poses problems for both oil companies and governments, the worst prospect of all, says Eales, is for Europe to remain dependent on OPEC and be caught "flat-footed, yet again."

How Safe is Nuclear Power?

"Radiation Pollution and Cancer: Comparative Risks and Proof" by Bernard L. Cohen, in *Cato Journal* (Spring 1982), Publications Dept., 224 Second St. S.E., Washington, D.C. 20003.

Since the accident at Three Mile Island in 1979, Americans have been more worried than ever about the safety of nuclear power plants. Cohen, a physicist at the University of Pittsburgh, belittles many of the alleged risks.

Radiation occurs naturally—in outer space, on earth (e.g., in uranium), and in the human body (in the form of potassium). Human exposure to it varies widely. In Colorado, with its high altitude and heavy uranium deposits, the average exposure is 50 percent greater than the national average; in Florida, it is 20 percent lower. A person who lives in a brick house receives 20 percent less radiation than does a neighbor in a wood house. One medical X-ray can increase a person's annual exposure by 25 percent.

Scientists have ample evidence for assessing the risks posed by high-level radiation—the early human guinea pigs for radiation therapy and the survivors of Hiroshima and Nagasaki, for example. But people who live near nuclear power plants receive a dose only one millirem higher than normal (100 millirems) each year. Tests with laboratory animals suggest that, at such low levels, any added health risk will be disproportionately small. "Nature provides mechanisms for repair of radiation damage," writes Cohen; "a given dose of radiation is generally much less carcinogenic when spread out in time."

The greatest public fear concerning nuclear power focuses on reactor meltdowns. The Nuclear Regulatory Commission (NRC) anticipates one reactor meltdown per 20,000 plant-years. (Commercial nuclear plants have now been in operation for 1,000 plant-years.) In most meltdowns, says Cohen, "no fatalities are expected." In the worst possible case—the collapse of a containment building—the NRC projects 48,000 deaths. But such a disaster is likely to occur only once in 100,000 meltdowns. The average death toll from a meltdown is estimated at 400 (the Union of Concerned Scientists, which opposes nuclear power, calculates 5,000). By contrast, notes Cohen, 5,000 people die each year from pollution caused by coal-fired plants.

If nuclear energy is so safe—there has not been a single fatal accident for over 15 years—why are Americans so worried? According to Cohen, a handful of scientists who predict doom have better luck attracting media attention than do their critics. "The price we are paying for this breakdown in communication," he writes, "is enormous."