substance known to man, 'toxic beyond human experience,' the 'fearsome fuel,' and other such melodramatic nonsense.

"Of course plutonium is toxic. Of course it must be handled with care. But the rest is just horror propaganda. Plutonium is primarily an alpha emitter, which means that its radiation is absorbed in the air after a few inches, and a sheet of paper is sufficient to shield oneself against its radiation at close quarters. It is far from being the most toxic substance known to man. When eaten or absorbed in the blood stream, it is 10 times less toxic than lead arsenate and hundreds of thousands of times less toxic than some biological poisons such as diphtheria or botulism toxin.

"However, though ingestion of plutonium or its absorption through the skin is dangerous, the real danger of plutonium is breathing it in the form of fine dust particles. Plutonium is essentially insoluble in water, and fine particles may stay long in the lung, with the possibility of causing lung cancer.

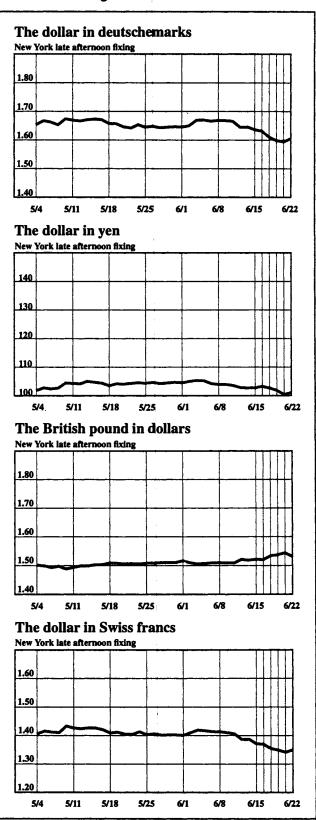
"This has been extensively investigated, and the experimental evidence is overwhelming: Not a single human cancer has ever been positively associated with exposure to plutonium. During the national emergency conditions of the early nuclear weapons industry, the exposures to plutonium far exceeded the present maximum permissible limits. Yet, of 17,000 plutonium workers, including those associated with the Manhattan Project, not one has died of or developed plutonium-related health problems.

"Included in this figure are 25 plutonium workers from Los Alamos (1944-1945) who had 25 times the currently permissible amount of plutonium deposited in their lungs. According to critics' estimates of lung damage, these 25 workers should have developed 1,500 individual lung cancers. In fact, out of the 25 workers, 23 are alive and in good health, and 2 died recently—one in an automobile accident and the other from a heart condition.

"Of all the materials that have emerged since the dawn of the nuclear age, it is probable that none has been subject to so much controversy as that 95th element in the periodic table, the transuranic metal plutonium. From those who claim that it is the most toxic substance known, to those who see only its military use in warheads, and the many opponents who would like nothing better than to have it stuffed back into some genie's bottle, plutonium has suffered something of an image problem. Perhaps its name also contributes to its bad press. But it was not named for Pluto, the god of the underworld or Hades, but for Pluto, the second planet beyond Uranus in the heavenly firmament. It is an extraordinary resource, like no other. Its promise, its guarantee, is essentially unlimited energy; but will we use it?"

There was no question for her that the consequence of not using plutonium would damn not only the United States, but the rest of the world as well. As she put it, "Should we turn our backs on the use of plutonium as a fuel for generating electricity, we will deny abundant energy, not only to ourselves, but to coming generations as well."

Currency Rates



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