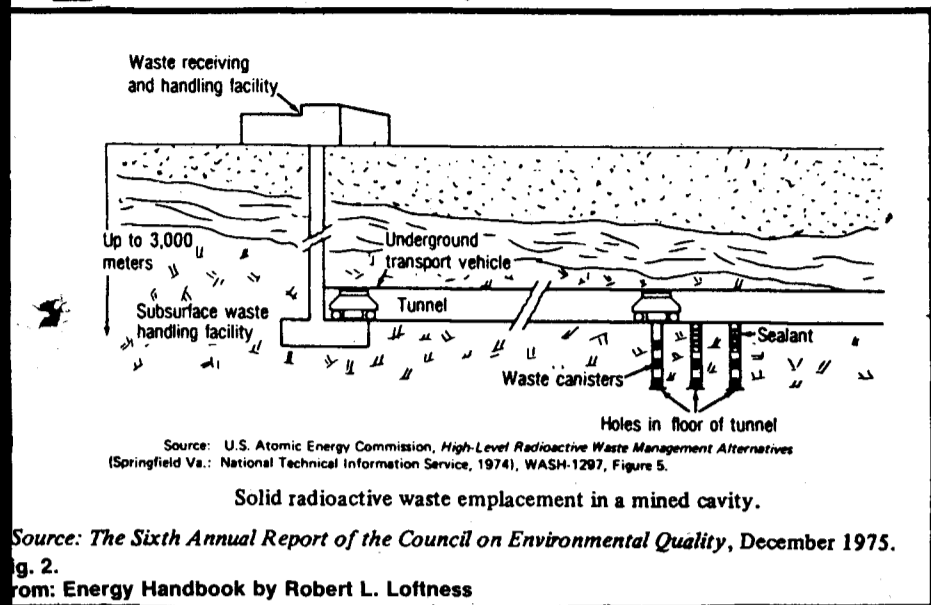


re

speed (Conclusion)



Source: *The Sixth Annual Report of the Council on Environmental Quality*, December 1975. Fig. 2. From: *Energy Handbook* by Robert L. Loftness

b. Argentina will soon be capable of manufacturing a nuclear weapon.

Keep this in mind while reading the following. In 1975 an Argentinian legislator introduced a bill calling for construction of an atomic bomb. He said at that time: "Recent events have demonstrated that nations gain increasing recognition in the international arena in accordance with their nuclear power." Canada imposed a safeguards agreement on Argentina before selling it a reactor. This is what a spokesman for the Argentinian embassy in Ottawa said about this agreement: "It's really a little silly... We'll sign the agreement all right. But how do they expect to enforce it? Besides, we wouldn't dream of building a nuclear bomb — unless Brazil does."

Few people will be surprised when Argentina explodes its first "peaceful" nuclear device. And what will Canada be able to do about it? Very little. The ratification of its safeguards agreements demonstrated in 1977 when India tested its first "peaceful" nuclear device. (India's bomb was built with plutonium from a reactor built with Canadian aid.) All Canada could do was to test and decline further aid. India is now a nuclear state.

These examples point to a connection that nuclear power proponents are unwilling to face: the nuclear power industry is a "watershed for weapons proliferation."

David Peat, author of *The Nuclear Book*, makes a disquieting point about international agreements. "In the end," he says, "licenses, guarantees and international agreements are all we have to go on for our security and they are changing more than signatures on pieces of paper. Governments can change, leaders can rise and fall overnight and policies can turn full circle with the test of ease."

Besides, we wouldn't dream of building a nuclear bomb — unless Brazil does."

To be sure, some governments are more stable than others and one would expect that since Canada realizes that it is more than just electrical power from every CANDU, it would be very selective about its customers. Unfortunately, the words of an AECL spokesman quickly lay such naive thoughts to rest: "For better or for our export policy is non-discriminatory, applying equally to developed and developing states."

Canada's sales policy for CANDUs is an aggressive one. This policy is justified by pointing out that it is a competitive market and "if we don't, we will." Such a rationalization defines the absence of ethics in Canada's nuclear business affairs. Still, the tightening of safeguards (despite its ineffectiveness) on our reactor in Argentina indicates that there is still a thin ray of conscience penetrating an otherwise murky mess.

A country in possession of a reactor

like the CANDU has other ways of arming itself besides withdrawing from agreements or exploding "peaceful" devices. It can build other facilities based on the design of the safeguarded one (such clones are not subject to the regulations of the original). It can also surreptitiously divert plutonium from the original facility. With a CANDU reactor, the latter option is particularly attractive.

The CANDU produces twice as much plutonium as the light water reactors and plutonium-laden fuel can be removed from the reactor at any time. Since the International Atomic Energy Agency (IAEA — the sole body responsible for the administration of international safeguards and the inspection of facilities) can do nothing more than announce violations, any of the four options can be implemented with nothing to fear except some harsh words — a small price to pay for a nuclear weapon.

Unfortunately, the countries that possess reactors are not the only ones who will capitalize on the deployment of reactors and reprocessing plants throughout the world. There is already evidence of a blackmarket in plutonium. That is the opinion of a former United States Atomic Energy Commissioner named Clarence Larson. He states that "once special nuclear material is successfully stolen in small amounts, a possible economically acceptable market, a supply-stimulated market for such illicit materials is bound to develop. And such a market can surely be expected to grow with it, and such growth would be extremely rapid once it begins. Such a theft would quickly lead to serious economic burdens to the industry and a threat to national security."

There is already a large amount of weapons grade material unaccounted for in the world. Charles Thornton,

former director of nuclear materials safeguards for the USAEC claims that "the aggregate MUF (materials unaccounted for) from three U.S. diffusion plants alone is expressible in tons. None of it may have been stolen, but the balances don't close. You could divert from any plant in the world, in substantial amounts, and never be detected... The statistical thief learns the sensitivity of the system and operates within it and is never detected" (emphasis added).

A blackmarket in plutonium means that terrorists and countries without reactors can manufacture bombs.

Atomic power proponents argue that bomb-making is too dangerous and too sophisticated an undertaking for terrorists. However, both the Mitre study group and the British Royal Commission on Environmental Pollution conclude that there is at least a possibility that a small group of individuals could manufacture a makeshift bomb but they would do so at great risk to their lives. The actions of

terrorist groups in the past indicates that many would undertake such risks.

Still, it is pointed out that terrorists do not need to use plutonium for bombs. They can simply release plutonium dust in an aerosol suspension or release it into a ventilation system. Plutonium dust is lethal when lodged in the lungs, even in minute amounts.

It seems inevitable that security will have to be greatly increased as more and more nuclear reactors are deployed around the world. Physicist and Nobel laureate Hannes Alfren outlines some of the requirements of a nuclear world: "Fission energy is safe only if a number of critical devices work as they should, if a number of people in key positions follow all their instructions, if there is no sabotage, no hijacking of the transports, if no reactor fuel processing plant or repository anywhere in the world is situated in a region of riots or guerilla activity, and no revolution or war — even a "conventional" one — takes place in these regions. The enormous quantities of extremely dangerous material must not get into the hands of ignorant people or desperados. No acts of God can be permitted." If even only a few of these contentions are true then the nuclear industry is destined to become a garrison industry guarded by a paramilitary organization.

In addition, nuclear power generation is an industry that only a small, centralized technocratic elite can

operate. This elite has been likened to a nuclear priesthood by some. This is how prominent physicist and nuclear power proponent Alvin Weinberg describes these technocrats: "What is required is a cadre that, from now on, can be counted upon to understand nuclear technology, to control it, to prevent accidents, and to prevent diversion... Each country now has its own AEC that sets standards or, in some cases, actually monitors or operates reactors. Perhaps this will be sufficient forever. Yet, no government has lasted continuously for 1,000 years; the Catholic Church is the best example of what I have in mind, a central authority that proclaims and to a degree enforces doctrine, maintains the long-term social stability, and has connections to every country's own Catholic Church."

A high energy nuclear society is a society where the energy source can defile the environment with its wastes and simultaneously provide the weapons that can transform the world into a radioactive wasteland. It is a society where a highly centralized energy source needs to be protected from the people it serves by technocrats and a large security force. It is a society that erodes liberty. It is not a desirable society. C.S. Lewis has written that "what we call Man's power over Nature turns out to be a power exercised by some men over others with nature as its instrument." A nuclear priesthood?

Figure 1 Toxicity of Radioactive Wastes

Union of Concerned Scientists, *The Nuclear Fuel Cycle*, Cambridge, Massachusetts, October 1973, p. 47.

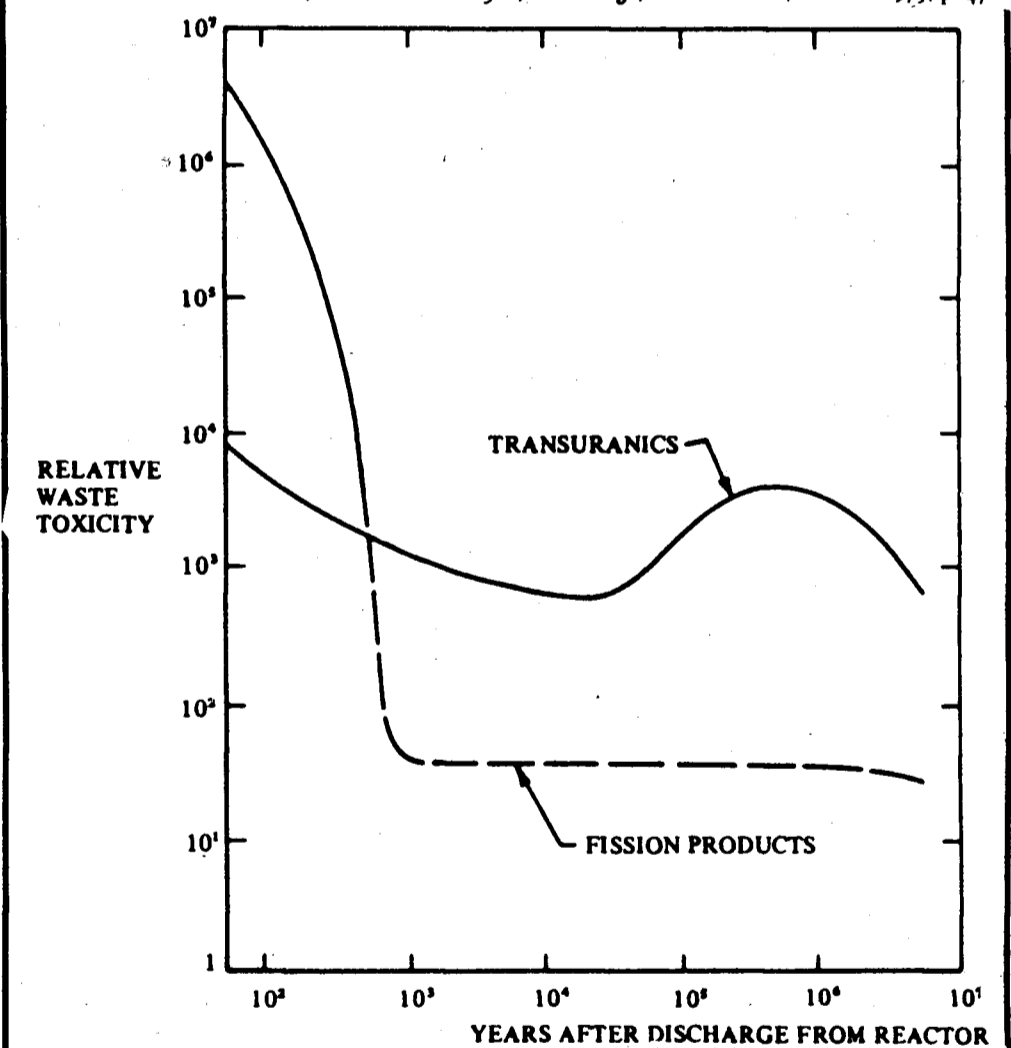


Fig. 1. Source: *The Menace of Atomic Energy* by Ralph Nader and John Abbotts

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