Plutonium Production Slated to Increase

Congress and Carter agree to boost production for weapons, but some claim it sets a bad example

The federal government has appropriated more than $100 million to increase the production of weapons-grade plutonium at a time when the United States has been trying to dissuade foreign countries from building their own stockpiles.

Until the last few months of his Administration, President Carter had said that existing plutonium supplies were adequate to meet future weapon requirements. But apparently because of new information and pressure from the Senate Armed Services Committee, Carter changed his mind.

Supporters of arms control are troubled over the impending increase in plutonium production. They argue that boosting production is inconsistent with U.S. pledges in support of nonproliferation. They also contend that plutonium in existing warheads can be recycled into newly designed weapons as old bombs become obsolete. Their concern is that the new material will be used to add more weapons to the present arsenal in lieu of such recycling.

Carter has requested that about 10,000 new warheads be manufactured during the 1980's, according to an estimate in the *New York Times*. The new weapons will include MX missiles, Trident rockets, and cruise missiles. Both Congress and Carter eventually concluded that the nation's plutonium reserves have slipped to a level too low to meet this requirement, even with a previously planned additional expenditure of $27 million over the previous year's authorization.

Last summer, the Senate Armed Services Committee concluded that more plutonium was needed after it examined two studies: one headed by retired Army Lieutenant General Alfred Starbird and the other conducted by the National Security Council. A committee report, referring to the studies, said, "The predicted shortages of special nuclear material are of such potentially serious concern to our national security interests that the Administration's hesitation in taking corrective measures cannot be understood." The committee report urged that plutonium production be stepped up by reactivating two reactors now on standby and suggested an authorization of $156 million, almost six times greater than the President's initial request.

In September, Carter finally asked Congress to appropriate $112 million for nuclear weapons production. The request came shortly after Third World countries had attacked the United States at a nonproliferation treaty conference for its failure to cut back its nuclear arsenal. Carter's proposal was passed by Congress in the final hours of its session.

The money will be used to restore one reactor at the Savannah River plant in South Carolina and another reactor at Richland, Washington. Weapons-grade plutonium is currently produced at three reactors at Savannah River.

The government is planning not only to start up old reactors but to build new ones too. Many of the reactors now in use are expected to outlive their usefulness by the early 1990's. Because the lead time to start up a new facility is 10 years, the government has already contracted a study to determine what type of reactors should be built.

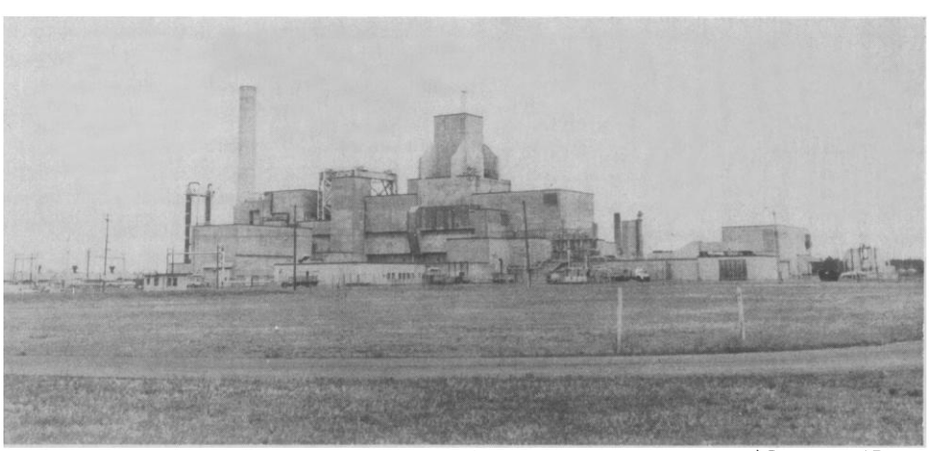
The two standby reactors could be operating within 2 to 3 years. They could increase plutonium production by as much as 67 percent, according to Thomas B. Cochran, a senior staff scientist at the Natural Resources Defense Council. He and other advocates of arms control believe there is little reason to expand plutonium production. "There is adequate security with the existing plutonium," Cochran says.

George Rathjens, professor of political science at Massachusetts Institute of Technology and a member of the arms control committee of the American Association for the Advancement of Science, says, "If there is a need for more warheads, dismantle the old stuff. The amount of plutonium doesn't change that much. We're crazy to want more plutonium. We've reached the point of insanity."

Many supporters of arms control believe that increasing plutonium production sets a bad example for other countries. Frank von Hippel, professor at Princeton and chairman of the Federation of American Scientists says, "The Carter Administration has been preaching about nonproliferation and here we go making a farce out of it."

An assistant to Carter's national security adviser, Zbigniew Brzezinski, says however that there is nothing in the nonproliferation treaty that specifically bans more plutonium production.

A Department of Energy official says that the overall increase in plutonium will be small. Another DOE official is irritated at the critics. "How can they know what weapons will be recycled? How do they know how much pluto-



Department of Energy

Nuclear production reactor

One of the nuclear production reactors located at the Department of Energy's Savannah River plant. The reactor produces plutonium and tritium for national defense.

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nium is going to be retired?" He says that the need for more plutonium may arise from new weapons which will replace nonplutonium bombs.

Government officials will not say whether the new warheads will enlarge the present supply, estimated at 20,000 warheads, because the information is classified. Brzezinski's assistant remarks, "The only thing I can say is that the number of weapons has trended downward in the past."

The Natural Resources Defense Council, in an effort to push the Departments of Energy and Defense into a public discussion of the need for more plutonium, is asking the two agencies to discuss the issue in environmental impact statements covering consequences beyond those involving the immediate geographic region. In a recent letter to the department heads, NRDC said that the government should make an evaluation of whether the weapons program increases or decreases the likelihood of nuclear war.

NRDC may or may not have a case. A DOE official says that in his opinion the department is not obligated to examine these wider concerns. A member of the Council on Environmental Quality says that NRDC raises some "reasonable questions," but notes that the courts may have to decide whether the government will have to answer them.

—MARJORIE SUN

Nuclear Fuel Account Books in Bad Shape

NRC statisticians find many discrepancies, say a clever thief could beat the system

"Would you rather put your money in a bank with a battalion of guards and a sloppy accounting system, or would you choose a bank with a few guards and good accounting?" The question is posed by Sidney Moglewer, an official in the safeguards division of the Nuclear Regulatory Commission (NRC).

Moglewer would choose the latter, and that is why he and a group of NRC statisticians are trying to persuade the NRC to improve the methods it uses to keep track of special nuclear materials such as highly enriched uranium and plutonium, which can be used to make nuclear weapons. The consensus of these staffers is that the NRC's statistical checks on fuel shipments have become so muddled in recent years that they are now meaningless.

The staff brought the problem before the commission twice in 1980, once in an open briefing on 31 March and more recently in an information report* filed on 20 November. The report lists 13 specific deficiencies in the NRC's accounting techniques, some of which are fundamental and easily remedied, others of which would require an enormous campaign to rectify. The significance of the report is clear, however. One can have little confidence at the moment that the NRC's system of accounting would catch a skillful fuel thief.

There are physical barriers to prevent the theft or loss of weapons-grade material. Processing plants are well policed, and workers are screened. The NRC maintains controls on the handling, packaging, and shipping of radioactive fuel. Yet these systems are not as strong as they could be with good accounting, which serves as a general monitor on security. It is a simple and sure way of telling whether or not there are leaks in the network. If the statistics are unreliable, one must depend heavily on inspection and physical controls, which have never proved very successful in stopping thieves in other circumstances, certainly not embezzlers.

This problem is especially important for international programs to control nuclear material, for they rely exclusively on statistical monitoring techniques to guard against diversion.

There are several indications of trouble in the accounting shop, but the best evidence comes from a recent study of discrepancies in the records of 17 processors of special nuclear materials (see chart). The NRC asks each processor to keep track of material delivered and shipped out, just as a bank keeps records of funds received and paid. The purpose is to impose high standards of management on the plants and to give the NRC a technique for spotting sloppiness. A sudden discrepancy in the books, which

WHAT DOES EXPERIENCE SHOW?

NRC Inventory Experience
April 1974 - December 1978

Number of Facilities	17	
Number of Inventories *With LEID Reported:*	*803*	
Number of Inventories Where |ID| > LEID.	375	— Nearly Half !!! (When There is No Loss/Diversion, about 40 |ID|s Would Be Expected to Exceed LEID)

Opinion: Something is wrong !

Source: Nuclear Material Safeguards Status Report (White Book), IE, June 1979

Where the system breaks down

This chart showing the record of discrepancies (ID's) in nuclear fuel accounts was presented to the NRC in an oral briefing last spring. Prepared by statistician Dan Lurie, it reflects the staff's view that "something is wrong" in the monitoring system. Significant discrepancies turned up far more often than one would expect.

* "Report on the Statistical Treatment of Inventory Differences," filed 20 November 1980 before the NRC.

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