Carter on Nuclear Power: Defer Reprocessing

In a major policy statement, President Carter announced last week that his administration would seek to "defer indefinitely" funding for the commercial reprocessing of plutonium from spent nuclear fuel. The decision will have a major effect on the future of the Allied-General plant in Barnwell, S.C., and possibly the Clinch River breeder-reactor project in Tennessee. In addition, Carter's statement marks a new direction for U.S. policy in the areas of energy, nuclear wastes disposal and nuclear proliferation.

As a prelude to his proposed energy policy announcement to be issued April 20, Carter outlined several new decisions relating to plutonium and nuclear energy. "We have concluded that a viable and economic nuclear power program can be sustained without (plutonium) reprocessing and recycling," Carter said. Consequently, funding for the Barnwell plant will be dropped and the administration will not encourage any commercial reprocessing effort. Carter also planned to give greater priority to alternative breeder programs and fuel cycles.

To make up for the loss of recycled uranium, which reprocessing plants could have provided, Carter called for increased production of enriched uranium. Tied to this proposal is another program that was to be part of the April 20 energy message but eventually emerged as an essential component of the new energy policy: the accelerated use of light-water reactors. Evidently, the plan is to rely upon nonbreeding reactors until new "exotic" energy sources can replace conventional nuclear power in the next century.

The final proposals dealing with nuclear proliferation were designed to provide the United States a measure of control over nuclear weapons. Carter wants legislation to permit the United States to sell nuclear fuel abroad, but he will continue the embargo on sales of uranium enrichment and reprocessing designs and plants. Finally, he proposed an international nuclear fuel cycling program in which the United States would store spent fuel from other nations.

Despite official discouragement, General-Allied, the company owned by General Atomic and Allied Chemical, is not planning to abandon the South Carolina facility. "We're not making any moves to close the thing down," Jerry Halverson of their Washington office said. Research and development on reprocessing and waste solidification will continue at the plant.

Although the liquid metal fast breeder reactor at Clinch River is ultimately dependent on fuel reprocessing, Carter made no plans to terminate the project. His budget, still under consideration in Congress, cut $84.8 million from the research funds, but work is still continuing, at a slower rate. Officials at Clinch River were still unsure just what the new policy meant for their work, and they hoped the April 20 message would clarify their position.

One of the more conspicuously absent provisions from Carter's statement was one dealing with nuclear wastes. Under the old policy, spent fuel rods were to be reprocessed into uranium and plutonium. But with the reprocessing plant deferred, the multiplication of spent fuel rods suddenly becomes a waste problem. Also, if Carter's plan to step up use of light-water reactors goes into effect, waste fuel rods will increase at a faster rate.

Another problem is that ERDA's research into safe waste disposal does not define a spent fuel rod as "waste" because the old policy was to reprocess. Now, ERDA officials are discussing retrievable storage for the rods until some use can be made of the uranium. However, without a clear indication of the overall thrust of the new energy policy, people at ERDA were a little confused about a mode of action. Like everyone else, they look to the April 20 message as a clarification of the energy policy.

Despite the confusion over the new policy, many people were unhappy with

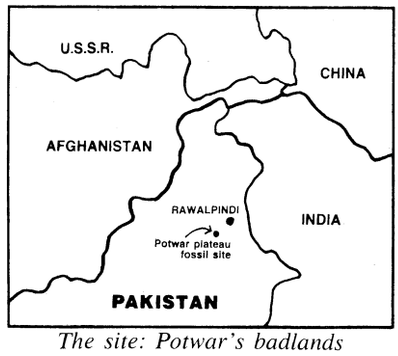
Pakistan fossils: New origins for man

It now appears that Asia, as well as Africa, may have been the birthplace of the human race. Though it has been suggested over the past few years, it was not until last week that the idea was apparently validated by a major archaeological finding.

An international scientific team, headed by Yale University anthropologist David Pilbeam, reports it has found 8-million to 13-million-year-old remains of some 80 "pre-men" in the arid badlands of Pakistan's Potwar plateau, southwest of Rawalpindi. "These early specimens contain the ancestors of all later, manlike forms, including human beings," Pilbeam says. Most of the specimens are upper or lower jaw fragments of large primates—primarily, the group believes, of the genus *Ramapithecus* and *Sivapithecus*.

In addition, the discovery almost certainly means the evolutionary split between ape and man occurred before 13 million years ago—probably at least 15 million years, Pilbeam says—or, about double other widely accepted estimates. The oldest Pakistani fossils are also about three times older than the remains of primitive man (genus *Homo*) reported recently by Richard E. Leakey, Donald Carl Johanson and Mary Leakey (SN: 11/8/75, p. 292). However, Pilbeam notes that such comparisons must take into account that those other findings involved "pure" man at a later evolutionary period.

Johanson, of the Cleveland Museum of Natural History, calls the Pilbeam group's fossils "an extremely significant find because of its completeness



The site: Potwar's badlands

in a well-dated context." The specimens, collected over the last two years, were dated by radiometric, faunal and paleomagnetic means. The new evidence also lends fuel to an argument—which Johanson has previously advanced—that fossils tend to be older as one moves northeast along the rift system that extends from Eastern Africa to Asia. "Africa has been the center of attention for quite some time now because of all the evidence uncovered there," says Johanson, who made his latest find in Ethiopia.

Now, Pilbeam says it is highly probable that the same evolutionary process that took place in Africa in prehistoric times also occurred in South Asia. The newly found fossils are of a "diverse intermediate group," Pilbeam says. They are pre-men—not really apes and not really men. This [the specimens] will add a lot to our knowledge about what pre-man looked like."

The anthropologist says the find also suggests that fossils of 3- to 5-million-year-old near-man may exist in Asia as well as Africa. □