Letters

Nuclear Non-Proliferation

Retardation of the spread of nuclear weapons to other nations is a matter of intense concern to Congress. Despite an apparent lack of public interest, nonproliferation is the priority issue for many congressmen (*1*). Thus, in considering the Administration's trial balloon on the use of commercial spent fuel as a source of weapons-grade plutonium with the aid of laser isotope separation, I find the testimony of Gerard C. Smith (*2*) at the hearing of my subcommittee on 1 October 1981 (News and Comment, 16 Oct., p. 307) most compelling.

During the 1967 negotiations for the Non-Proliferation Treaty (NPT) and its provisions for safeguards under the International Atomic Energy Agency (IAEA), the United States offered to place our peaceful nuclear facilities under the same safeguards, albeit reserving the legal right to use the special nuclear materials any way we see fit. An agreement to this effect between the United States and the IAEA was ratified by the Senate in 1980.

Thus, we helped to set up the international safeguard program under the IAEA and the NPT to keep account of commercial nuclear materials to ensure that they are not diverted to weapons use, agreed to have our commercial nuclear plants safeguarded in the same way, as a good example, and now we propose to divert openly our commercial materials into weapons channels. In Ambassador Smith's words: "it would be a horrible example if the inspectors from the IAEA were periodically reporting diversions from our nuclear power plants for military purposes, when all over the rest of the world their function would be to try to discover such diversions which would be illegal under the terms of the treaty."

I am surprised that Richard L. Garwin (Letters, 1 Jan., p. 6), an opponent of routine reprocessing who is well aware of the dangers of proliferation, favors the reprocessing of commercial reactor fuel to meet the needs of the weapons-grade plutonium stockpile rather than the building of a new military plutonium production reactor. While he expresses concern that this will encourage general reprocessing as proposed by the Administration (*3*), he does not comment on Ambassador Smith's argument.

I fear that we cannot preserve the nonproliferation regime in the world if we mine commercial spent fuel for plutonium for military purposes. This action would demonstrate to the world how to move from Atoms for Peace to Atoms for War and could readily result in a growing number of nations in possession of nuclear weapons. Such encouragement for proliferation presents a serious danger to our national security which must not be ignored as the Administration considers the need for a further expansion of the U.S. nuclear stockpile and ways to obtain it.

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References and Notes

1. E. Moynihan, *New York Times Magazine*, 15 November 1981, p. 151.
2. The text of the 1 October 1981 hearing, "Proposals to obtain plutonium from commercial spent nuclear fuel for U.S. nuclear weapons," is available from the subcommittee on oversight and investigations.
3. The text of the 23 October 1981 hearing, "The Reagan Administration's nuclear fuel cycle policy and the future of nuclear power," is available from the subcommittee on oversight and investigations.

Technological Manpower

In his editorial about the proposed 12 percent across-the-board budget cuts for government agencies (16 Oct., p. 261), Frank Press raises two basic questions for the scientific community. What case do we have to resist cutbacks in research funding, and how should the case be heard? One consequence of the proposed cuts may be spelled out rather easily—they will affect technological manpower.

The majority of doctoral students in science and engineering work their way to a Ph.D. as research assistants on government-funded research projects. So the proposed cuts in the budget base for university research translate directly into a cut in the production of Ph.D.'s. The current reduction of more than $60 million in the budget of the National Science Foundation—under half the cost of one B-1 bomber—may be conservatively estimated to lead to a loss of more than 500 Ph.D.'s per year.

Unlike the consequences of the loss in basic research discoveries resulting from these cutbacks, the loss of technological manpower will be felt relatively quickly—in 3 to 5 years. Since there are already manpower shortages in certain areas of computer science, electrical engineering, and microbiology, this loss will undoubtedly reduce our competitiveness in high-technology industries and our ability to fulfill national goals in areas such as defense and health.

In the words of President Reagan's Science Adviser George Keyworth: "The scientific and technological base of this country is primarily its talent." Isn't a reduction in training of skilled people the social equivalent of burning our seed-corn? Budget Director David Stockman has said: "Power is contingent . . . unorganized groups can't play in this game." It's time for all of us involved in graduate education to come off the fence and lobby effectively for protection of this vital national resource.

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Fetal Alcohol Advisory

The article "Fetal alcohol advisory debated" by Gina Bari Kolata (Research News, 6 Nov., p. 642) purports to show that researchers in this field are divided on the advice given by the Surgeon General to pregnant women. The opinions of five respected scientists are presented. Four (Rosett, Sokol, Kline, and Abel) either take issue with the Surgeon General's advisory or discredit the validity of the studies on which it was based. However, there are many other researchers of equal stature who strongly support the Surgeon General's position. Among these are Ann Streissguth and her colleagues, whose comprehensive review of the field was published in *Science* (18 July 1980, p. 353); another is Sterling Clarren, a dysmorphologist and one of the leading experts in the world on the diagnosis and treatment of fetal alcohol effects.

In addition, I know of no reputable study showing that 8 percent of women of childbearing age are "alcoholics." Even if this were true, assuming that the same proportion (8 percent) of the subjects in the Harlap study was alcoholic is