only a comprehensive national minerals policy but also for appointment of a "minerals adviser" to the President.

On 2 June, Santini, Udall, Kazen, and nine other congressmen met with President Carter for about an hour. Santini led off with a 20-minute presentation in which he emphasized that imports of a number of important minerals—zinc, manganese, chromium, nickel, and tungsten, among others—continue to increase, both in terms of absolute tonnages and as a percentage of total supply. And he pointed to several pending legislative initiatives to which the mining industry was, and is, strongly opposed; one of these would replace the Mining Law of 1872 with a mineral leasing system, while another would set aside tens of millions of acres in Alaska as wilderness in which no mineral development would be allowed (*Science*, 4 November).

The upshot of the meeting was that two of the Administration officials who were present—Frank Press, the President's science adviser, and Secretary of the Interior Cecil D. Andrus—have proposed that a nonfuel minerals policy review committee be established, with Andrus as chairman. The agencies represented on it would include—besides the Department of the Interior and the White House Office of Science and Technology—ten or more others, such as the departments of State, Commerce, and Treasury, the Environmental Protection Agency, and the National Science Foundation (NSF).

At this writing, plans for the study, which would require a year to 15 months to complete, are still subject to revision and presidential approval. But, as now conceived, eight task groups, each led by an agency on the policy review committee, would address a particular problem or policy area. For instance, a group led by NSF would review government R & D policies; one headed by the Department of Commerce would look at policies affecting the demand for minerals; and groups led by Interior would look at policies bearing on minerals supply and data collection and analysis.

Papers from the various task groups, once accepted by the review committee, would go to make up the overall policy study, which would set forth options and recommendations for presidential action. Ratings as to a particular mineral's importance to the domestic economy and its susceptibility to supply disruptions would probably figure in this exercise.

One thing which the policy study would not address is Santini's proposition that there should be a minerals adviser at the White House to compensate for the bureaucratic disadvantage at

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If You Can't Beat Them, Join Them

Civil libertarians and advocates of personal privacy, who have waged a number of fights against the Central Intelligence Agency (CIA) in recent years, may rest easier these days, for their rhetoric has been adopted by none other than the current CIA director, Stansfield Turner.

Turner, who in recent months has been forced to preside over disclosures of CIA experiments performed in the last decade on unwitting human subjects, has made a strong plea for rights of privacy and free association in a letter to Harvard president Derek Bok.

Last May, Harvard established guidelines regarding contact between employees of the university and the CIA, which required, among other things, that faculty members notify the administration if they do any work for the CIA.

In a letter to Bok that was published in the newsletter *Science Trends*, Turner firmly objected to the notification requirement. "I believe that any attempt to regulate the private lives of our citizens in a manner discriminatory to any particular group, profession or segment of society poses serious risks," Turner said. Although the CIA suggests that individual scholars inform officials at their universities of their relationship with the CIA, he said, "scholars [frequently] object to advising any third parties on the understandable grounds that to do so would violate their constitutional rights to privacy and free association and possibly expose them to harassment and damage to their professional careers." Whether or not a faculty member discloses his CIA connection should be left "to the discretion of the individual," he added.

Turner said that current CIA policy was largely consistent with Harvard's guidelines: "All of our contracts with academic institutions are entered into with the knowledge of appropriate senior management officials. All recruiting for CIA staff employment on campus is overt. It is against our policy to obtain the unwitting services of American staff and faculty members of U.S. academic institutions." Harvard's guidelines require that university-CIA contracts be made public, and that faculty recruiters provide the names of any other members of the university community to the CIA only if the prior consent of those involved has been obtained.

Turner also expressed high hopes for the future of the CIA-academic relationship. "It remains in the best interests of both the academic and intelligence communities to expand and refine their contacts in a spirit of mutual respect and understanding," he said.

Daniel Steiner, Harvard's general counsel, told *Science* that Bok has replied to Turner's letter, and that Harvard officials have been meeting with representatives of the CIA about their objections. Steiner refused, however, to say if Harvard was considering revising its guidelines. He said that "an announcement about the meetings will be made in a few weeks."

NASA Study Was Bust, Not Boost, Says Proxmire

In 1974, the National Aeronautics and Space Administration (NASA) commissioned a $140,000 study to assess the economic impact of its spending on research and development from 1961 on. By any definition, that spending was enormous: some $40 billion, or 12 percent of the total expenditure on R & D in the United States during that period.

As a result, it was with great pride that NASA presented the findings of the study during its budget hearings in 1976 before the Senate subcommittee on independent agencies. The study, which had been done by Chase Econometric Associates of Bala Cynwyd, Pennsylvania, found a 43 percent rate of return on NASA research dollars and concluded that a $1 billion sustained increase in NASA's research budget would raise the nation's gross national product $23 billion by 1984 (*Science*, 2 July 1976).

Not surprisingly, such a favorable report left a bad taste in the mouth of Senator William Proxmire (D–Wisc.), chairman of that subcommittee and a vocal critic of the nation's space program. ("Not a pen-

which mining allegedly finds itself. Consideration of possible organizational changes that would affect mining falls within the province of the President's government reorganization planners at OMB and on the White House staff.

A reorganization plan to reduce the White House staff already has been accepted and acted upon by the President, however, and if anything is certain, it is that there will be no special presidential adviser for minerals. But a Department of Natural Resources—one of the hardy perennials called for in past government reorganization plans—might well be proposed to Congress by the President next year, and in such a department nonfuels mining could perhaps be given a higher bureaucratic status.

Whereas Santini and others have called for development of a "comprehensive" national minerals policy, the kind of thinking reflected by such terminology is regarded as illusory by some specialists in natural resource management. In their view, such thinking ignores the hard trade-offs that must be made in reconciling mining with environmental protection and conflicting land uses, such as wildlife and wilderness preservation.

In this connection, the Administration itself wants to see the existing mineral location and patent system—whereby prospectors are allowed under the 1872 law to stake out claims on the public domain—abandoned in favor of a system in which the Secretary of the Interior would issue exploration permits and mineral development leases at his discretion. The argument here is that, without such an exercise of discretion, mining might ride roughshod over competing concerns—something which Secretary Andrus, who has vowed since taking office to deliver Interior from the resource "user-abuser" interests which he says dominated it for too long, is determined to prevent.

But while the minerals study will not result in a national policy that makes for quick and easy answers, it is expected to provide a much expanded body of readily retrievable data and a useful analytical framework. From this framework, policy options would be identified for coping with the various minerals policy issues as they arise, whether they have to do with foreign trade negotiations, tax policy, pollution control regulations, land use on the public domain, or whatever. So, even if there is to be no such comprehensive minerals policy as Santini has called for, there could be a significant improvement over the kind of ad hocery that has characterized federal decision-making with respect to nonfuel minerals up until now.

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ny for this nutty fantasy" was Proxmire's recent response to the proposal of Princeton astronomer Gerard O'Neill to build human colonies in outer space, for example. "This proposal is the best argument yet for chopping NASA's funding to the bone," he added.) In September 1976, Proxmire asked the General Accounting Office (GAO) to analyze the report, and several weeks ago the GAO finally announced its findings.

Most importantly, the GAO found that the Chase study did not convincingly prove that the economic benefits from NASA research were as large as had been stated. The GAO noted that what it called "plausible and minor changes" in the survey's methodology could dramatically affect the results. Under some alternative assumptions about the economy, "it could be concluded that NASA research and development had no significant effect," the report said. The results would have been more reliable if the study had looked at the effects of specific NASA programs, the GAO said. But, even if the results were accepted as accurate, they did "not provide the type of information needed to determine whether NASA's spending should increase or decrease." These findings were tempered, however, with an admission that "NASA has had certain beneficial effects on the economy." The Chase study, it concluded, "was a worthwhile exploratory approach to a difficult economic problem."

Noting these conclusions, NASA administrators did not take issue with the GAO report. They did take issue with Proxmire's interpretation of it, however. On 25 October, Proxmire said that "what this [GAO] report tells me is that the Chase study was more fiction than fact." The GAO, he said, "has set the record straight by challenging the Chase study conclusion that an increase in NASA spending will have a significant impact on national productivity." Nathaniel Cohen, director of NASA's office of policy analysis, in the fine tradition of bureaucratic diplomacy responded simply that the Senator's comment was just "not accurate."

Georgia Dam Collapse Renews Concern for Safety

The collapse of a privately owned dam on 6 November in the President's home state of Georgia, which killed 39 people connected with the Toccoa Falls Bible College, has focused new attention on the issue of dam safety.

Eight federal studies of dam safety have been conducted since the collapse of the Teton dam in Idaho in June 1976, but, until the collapse in Georgia, high-level interest in the issue has not been sustained. In the past, such interest died down a few weeks after a tragedy, President Carter noted at a press conference on 10 November. "I intend to pursue this dam safety inspection now without surcease," he promised.

The inspection program referred to by Carter was approved by Congress last July with a budget of $15 million during fiscal 1978. Under the program, the Army Corps of Engineers was given the responsibility for inspecting the nation's 50,000 dams, only 10 percent of which are federally owned or operated. Although a survey conducted as the result of legislation passed by Congress in 1972 identified 20,000 dams whose failure would result in property damage or loss of life, fewer than 10,000 dams have been inspected under any state or federal law since then.

Moreover, a recent National Academy of Sciences study of the Bureau of Reclamation's dam safety program uncovered numerous deficiencies in the operation and inspection of 330 federal dams. The report noted that there was no single unit with the responsibility for dam safety, that standard operating manuals had not been prepared for some major dam projects that studies of possible earthquakes in dam areas have been incomplete, and that preparation for possible emergencies was at many sites inadequate.

Although funding for the federal inspection program began on October 1, no inspections have as yet taken place. A spokesman for the Office of Management and Budget (OMB) told *Science* that the agency has been contemplating how the program would be conducted—until last week, that is. Apparently spurred by the failure in Georgia, OMB officials finally forwarded an options paper on the program to the White House.

R. Jeffrey Smith