

# state & society

## Frank Press outlines tasks as President's science advisor

The Office of Science and Technology Policy and its new director have not yet attained their eventual "steady-state relationship" with the White House and each other, according to Frank Press. This is understandable, because Press—only recently confirmed as OSTP's director by the Senate—is still engaged in working out and refining the procedures and style of that office and of his dual role as the President's science advisor. Press talked with us about his approach to the two jobs, and he also named major problem areas facing the nation in which science and technology are significant components. He discussed the health of the scientific enterprise in general, and its large potential on the international scene, including technology innovation and transfer and the foreign-policy implications of safeguarding scientists' rights abroad.

Press, an MIT geophysicist and an authority on the monitoring of nuclear-arms tests (for more complete biographical information, see *PHYSICS TODAY*, May, page 110), is regularly characterized as "softspoken," "calm," "contemplative" and so on, and with justice. But one must add "resolute." Asked how he expects to build a successful relationship with President Jimmy Carter, as his advisor, Press said without hesitation, "I have to anticipate all of the ways that technology interacts with the major decisions that face him and *be there*, responsive to the



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things he has to know about. I have to be able to give him some independent views—mostly obtained through my contacts with the outside world—so he has another point of view than the institutionalized advice he gets elsewhere."

**Communicating with Carter.** At present Press, in his science-advisory capacity, sends several short memos to the President each week; he has taken the initiative

in bringing certain things to his boss's attention, while in other areas he responds to the President's enquiries. Press is quick to add that he restricts his communications with Carter to "Presidential-level issues." He told us, "I would not like to take on studies or tackle things I feel are not on his front burner; otherwise he'll end up with reports that just go

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## GAO reports on Federally funded science programs

Over the last few years the US General Accounting Office, a Congressional watch-dog agency, has responded to an ever-increasing legislative emphasis on programs, issues and policies at the Federal level involving science and technology. Analysis of science-related questions is conducted within a number of divisions and groups at GAO, but the science and technology advisory staff, headed by Osmund Fundingsland, is the one that keeps track of all issues to be considered from the perspective of science, technology and public policy and develops the agency's list of science-related priorities. The GAO frequently transmits reports on its findings to the

Congress and to Executive agencies; one recent report, by the agency's Energy and Minerals Division, identifies national energy issues and urges the consolidation of Federal energy functions, and another documents the apparent disappearance of large quantities of nuclear materials from commercial plants.

**How does science fit in?** Science and technology constitutes just one of approximately 30 national issue areas—such as national productivity, Federal procurement, transportation and so on—in which GAO assists the Congress in its oversight responsibility. The spectrum of GAO work in the science and technology issue area includes evaluation of re-

search programs in such diverse fields as deep-ocean mining, atmospheric physics and meteorology, space and astrophysics, computer sciences, biophysics and biomedicine, and behavioral science. The GAO has ten major divisions, of which the Energy and Minerals Division has the largest technical staff, followed by the Division for Procurement and Systems Acquisition. The Energy and Minerals Division is now analyzing President Jimmy Carter's comprehensive energy program, introduced to the Congress in April. Procurement and Systems Acquisition is organized into three functional subdivisions—major acquisitions, general procurement and S&T—with a

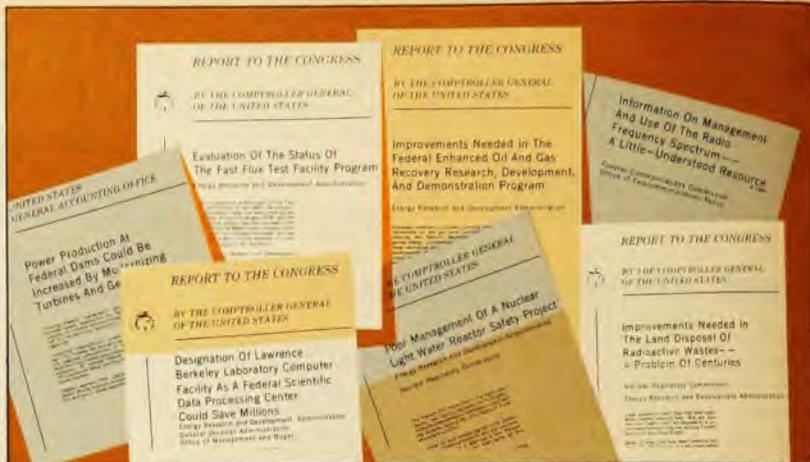
deputy director for each. The Human-Resources Division has agency oversight over health and the NSF and is also concerned with biomedical research and science-education matters.

Fundingsland's small advisory group (he has a professional staff of four), part of the aforementioned science and technology subdivision, issues and updates plans for the consideration of science and technology questions by GAO. It is also responsible for day-by-day liaison with the Congressional Office of Technology Assessment, but the group's main job is to prepare annual summaries of scientific concerns and distill from them a list of so-called "priority lines of effort" in science and technology for the agency to investigate. More than half of all evaluations performed by GAO as a whole are self-initiated, while about a third result from Congressional requests.

**Priority-effort areas.** Present lines of effort developed by the science advisory staff include investigation into "the role of the Federal Government in mobilizing scientific and technological resources for major commercial ventures" (such as aquaculture R&D and NASA's LANDSAT program), improved matching of education programs to anticipated future scientific-personnel demand, roles of federal laboratories, "management and oversight of science and technology programs" to get results and meet goals (program examples cited by Fundingsland include human-nutrition research and chemical warfare), Federal policies and regulations that may "adversely affect or inhibit commercial technology innovation" and means by which the Federal Government can encourage State and local governments to increase their application of science and technology.

Naturally, GAO lacks the numerous technically trained persons necessary to evaluate any of these topics fully. The agency employs consultants in numerous ways, according to Fundingsland—for technical advice, identification of fundamental issues or to lead GAO to other sources of advice. The agency's reports, though, are institutional documents, and GAO takes final responsibility for their contents.

**Reports and their results.** Congressional requests for GAO studies vary considerably in what is desired, Fundingsland told us, and so does the subject matter of its own investigations. When new legislation is proposed, GAO may be asked to prepare questions or comments for use at Congressional hearings. More and more of the GAO reviews are emphasizing evaluation of program results and analysis of program alternatives and related policy issues. While the agency eschews any judgement of the caliber of research being evaluated, it does comment on the correspondence of agencies' or labs' output to stated goals. Sometimes GAO reports result in the passage of new legislation, sometimes not. What is certain is that



the agencies under review pay attention to GAO's activities; Federal agencies are required by law to respond to the appropriate Congressional oversight committees concerning GAO evaluations of their performance and programs. Often the agency under consideration agrees with and implements GAO's recommendations on its own.

**Two recent reports.** Since 1975 GAO has produced reports on the Large Space Telescope, the Liquid Metal Fast Breeder Reactor program, the National Science Foundation's peer-review procedures and activities associated with its RANN program, and other science-related Federal efforts. The agency recently released the report of its review, requested by Senators Abraham Ribicoff (D-Conn.) and Charles Percy (R-Ill.), of national energy goals and energy-policy decisionmaking. The GAO concluded that the separate energy agencies (ERDA, the Federal Energy Administration, the Federal Power Commission and the Department of the Interior) do not always take actions and make decisions that are compatible with overall energy goals; the report also notes a need for "better coordination among agencies carrying out energy functions and for establishing a system of priorities among energy goals" in order to solve the nation's long-term energy problems.

The GAO has headed its list of recom-

mendations to the Congress with a reassertion of its 1974 proposal for the establishment of a Department of Energy and Natural Resources, which would be directed to consolidate energy functions and set long-term energy priorities and goals. As an interim solution, a National Energy Administration is suggested—pending the department's creation—to exercise control and coordinate policy formulation, allocate R&D and demonstration funds and finance commercial ventures in advanced energy technologies. The report also discusses several issues that the Congress should bear in mind while considering legislation for a consolidated energy agency; among these is the need to separate policy-making responsibility from regulatory authority.

Last month the GAO reported to the House Commerce Subcommittee on Energy and Power that numerous US nuclear facilities operated since 1955 by private companies were not able to account for "thousands of kilograms" of highly enriched uranium and plutonium. (A similar conclusion was reached with respect to Government facilities in a separate GAO investigation completed in August 1976.) The report pinpoints as sources of concern the accounting procedures employed by the companies in-

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## Washington Bulletins

★ **The new Assistant Secretary of Commerce for Science and Technology** is Jordan J. Baruch, a professor of business administration and engineering at Dartmouth College. He was recently confirmed by the Senate as successor to Betsy Ancker-Johnson—who has accepted a position at Argonne National Laboratory—and is now on the job.

★ **ERDA's authorization bill for FY 1977** has passed the House and is cleared for the President's signature . . . at long last.

★ **The nomination of Richard C. Atkinson** to be Director of the National Science Foundation received ready Senate confirmation after the Committee on Human Resources (which has oversight on NSF) concluded its hearings on the question. Atkinson, a psychologist, has acted as head of NSF since August 1976.

## GAO reports on programs

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involved and inadequate security systems at the various plants; however, the missing materials are not necessarily misplaced or stolen—they could be trapped in processing equipment, or even generated on paper by faulty measuring techniques. The effect of imperfections in the companies' accountability systems, however, is a failure to provide timely information on possible thefts, so that responsive or recovery actions could be initiated promptly. —FCB and BCC

## Science advisor's tasks

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into the file." Direct contact must be so restrained, according to Press, because there are some 50 people—Cabinet officers, senior staff members and heads of certain independent agencies—with access to the President, and it's easy to swamp him.

As director of the White House science and technology office, Press manages a small staff of 15–20 professionals and heads three statutory advisory bodies under OSTP: the Federal Coordinating Council for Science, Engineering and Technology; the President's Committee on Science and Technology, and the Intergovernmental Science, Engineering and Technology Advisory Panel (see PHYSICS TODAY, February, page 69). He provides technical advice to the Domestic Policy Group and advises the National Security Council. (Press told us he has not attended any meetings of the security council, whose membership is defined by statute, but he has participated in policy decisions—where there's technology involved—that go up to the council.) It is Press's intention to organize the science office into divisions covering such major areas as national security, domestic policy, intergovernmental (Federal-State, that is) science and technology and international concerns. He also plans to use the FCCSET (dubbed "Fix-it") as a powerful coordinating mechanism for R&D issues that cross agency lines, such as atmospheres and oceans. "ERDA, EPA, NASA . . . they all have foreign technological agreements," said Press, "and these must be coordinated because they're components of the President's foreign policy."

**Balancing two jobs.** Press does not believe there is any inherent conflict between his twin roles as director of OSTP and science advisor to Carter, but he acknowledges a need for sensitivity. As head of the science office (a statutory position) he must be available to testify before Congressional committees on scientific and technical issues, while he regards his main task as that of confidential advisor to the President. "I have to re-

spond to Congress," said Press, but "if that were to grow to such an extent that I spent all my time testifying, and didn't have any time left over to serve the President, that would be a serious mistake. It would undermine the whole office." His first boss is the President, he told us, and he will urge committee chairmen to develop other sources of expert advice from his staff and elsewhere in and out of government.

Another thing to avoid, Press believes, is the role of science's advocate in the White House; some past science advisors were seen as servants of the scientific community rather than the President, and this diluted their effectiveness. One of the criteria for removal from the Executive Office of the President, in Press's view, is to be the representative of a special-interest group.

**Reaching outside.** How can OSTP's small staff adequately analyze and coordinate scientific and technical problems that receive the attention of numerous qualified professionals elsewhere in the Federal Government, the universities and industry? According to Press, his tiny staff has contact—or potential contact—with thousands of outside experts in different areas: "That wisdom available to me is the only thing that makes my office possible," he says, "because I can't be expert on everything with the small group of people I have working for me. But we know who knows and how to find out, how to reach them."

Also adjacent to OSTP is the Office of Management and Budget, with whom Press has already begun consulting on the R&D budget for FY 1979. The budgetary cycle is "OMB's job, not ours," he says, "but my people sit in." Whenever an interagency problem arises where a Presidential-level or OMB-level decision is necessary on technological matters, it is natural for the science office to contribute its advice, and Press told us this has already occurred; OSTP has been asked to examine several such issues in the areas of national security and domestic policy.

**Problems to be solved.** Press listed as major national problems having scientific and technological content some familiar stand-bys (energy, biomedical health, the environment) and some less common ones. Among the latter were the questions of regulation ("How do regulations affect the conduct of university research?"), the health of American science and technology, and their international aspects. He wants to monitor science and technology to ensure that they do what they're supposed to do; he also seeks to answer the question of why different sectors of our industrial technology exhibit such disparate strengths and weaknesses. "In some areas, like consumer electronics, the balance of trade is terrible. But in the area of computers we're so far advanced we export more than we im-

port." Press means to learn the causes.

With respect to the health of science, we asked Press about the tendency to shift all Federally supported basic research into the National Science Foundation, as feared by some researchers. First, he said, the NSF doesn't want the job—they'd be the first to come out against the concept of a centralized basic-research agency. Second, such a change has not yet been proposed. If the NSF were to take on suddenly some of the physics efforts traditionally nurtured within mission agencies such as ERDA, according to Press, "it would completely unbalance what they have now, where physics is one of many pursuits."

**International science.** On the world scene, Press sees technology transfer as an important concern. "In some cases we do want to transfer certain kinds of our technology to the third and fourth worlds," he told us. "In other cases we must continually remind ourselves that it's not to be a one-way flow of technology, from us to somebody who might use it against us."

How can we utilize our science and technology to benefit less developed nations? According to Press, "The potential is huge." He believes the programs with the greatest impact may well be those where the only expenses are people's salaries rather than capital goods. He senses a new readiness to help, within American universities and industries, in training people to increase the quality of life. American scientific and technical know-how, according to Press, could help other countries deal with agricultural and nutritional problems, achieve industrialization and set up vocational schools and technical colleges.

**Human rights.** Press's boss has established a reputation for speaking out in favor of the observance of individual rights all over the world, so we asked the science advisor what should be done about harassment of scientists in other countries. "We're all concerned," Press said, "about the treatment of individuals in other countries, but I wouldn't support cutting off technical contact with, for example, the Soviets at this time on the basis of the dissidents." He estimates that there are several thousand American scientists who interact closely with Soviet counterparts, and he sees this as an "extremely important bridge-building group between the two countries. It's one of the most important parts of détente."

This is not to say we shouldn't be concerned about the dissidents, Press adds; he merely does not believe in the sort of reactions or "ultimata" that cut off communication. He expects that the President will continue to speak out on human-rights questions while negotiating arms-control agreements, "but I hope it doesn't lead to a deterioration in communication between the technical communities." —FCB □