asked to look at any budget changes that might be necessary (although the rumor is that the Ford Administration is requesting a high budget for the NSF) and to identify any organizational changes that may be needed (none have so far leaped to attention). "We are to outline options, not make policy," Brown says.

The AAAS seems at this juncture to be playing a more prominent role than usual in the nation's affairs. A Carter aide called AAAS executive officer William Carey 2 weeks ago—when only the first few cabinet members had been announced—saying he had heard the scientific community was unhappy that the science area was being ignored by the transition staff. To make amends for this neglect, the aide said, would the AAAS detail two people to work with the transition staff. "I told him that the scientific community was not at all indignant and that my advice was for them to take their fingers off the panic button," says Carey. The two people requested by the aide, Brown and Irene Tinker of the AAAS International Office, were both members of the science policy task force that aided the Carter campaign.

Ellis Mottur, a Kennedy science policy adviser who has been consulted by the Carter staff, believes the search for the science adviser is being well handled and reflects Carter's "tremendous personal commitment to the potential of science and technology. The scientific community ought to be delighted that at least we got the law passed [reestablishing the science adviser's postion] and that the Carter people have recognized this," says Mottur.

But Carter's aim of reducing the White House staff may crimp the style of the science adviser's reincarnation.

—NICHOLAS WADE

Science in Europe: British Ponder Reprocessing Plans

British plans to become a major world center for the reprocessing of spent fuel from nuclear power plants have been halted at the last possible minute. Officially, the reason given for the delay is to allow more time to examine the plans; but a more likely explanation is that the British Government wanted to avoid offending President-elect Carter by going ahead with reprocessing while the American position on reprocessing is still undecided.

The plans involve an expansion of reprocessing facilities at the Windscale works of British Nuclear Fuels Ltd. (BNFL) in northwest England. Part of the expansion would consist of a plant for reprocessing oxide fuel of the type used in British advanced gas cooled reactors (AGR's) and in light water reactors (LWR's). Although Windscale has functioned since the earliest days of nuclear power, it has little experience of oxide fuel reprocessing because earlier British reactors did not use this type of fuel.

The controversial part of the plan was that in addition to reprocessing AGR fuel, the oxide plant at Windscale would undertake to reprocess fuel from abroad. Contracts with Japan are already drafted and all but signed, and together with work from other European countries are expected to produce business worth £500* million. The capital cost of the expansion, to which Japan would have contributed, is £600 million.

Criticism of the plans first surfaced 12 months ago, and centered on the claim that Britain was allowing itself to be used as a "nuclear dust-bin" for Japanese nuclear waste. BNFL countered by saying that all high-level wastes extracted from spent Japanese fuel would be returned to Japan and not stored in Britain. In March this year BNFL appeared to have won the battle when the Secretary of State for Energy, Anthony Benn, told the House of Commons that the Government had decided that BNFL could take on the overseas work.

Early in November the planning committee of the County Council in which Windscale falls gave its approval for the expansion. Under Britain's complex planning regulations, this left 21 days for the Secretary of State for the Environment, Peter Shore, to intervene if he wanted to call a full-scale public inquiry into the plans. On the last possible day, he did intervene, not to call a public inquiry but simply to allow more time for consideration. The most recent development in the debate over the plans was the announcement on 22 December by Shore that his department would hold a public inquiry into the part of the Windscale plan involving oxide fuel reprocessing. Such inquiries often take 6 months or more to produce a recommendation, but indications are that the government intends to move more rapidly toward a decision.

This leaves Britain in very much the same position as the United States on the question of reprocessing, which has emerged in the past 2 years as one of the most crucial issues in the nuclear debate. President Ford's decision 5 days before the election to put reprocessing on ice has now been followed by an almost identical decision in Britain. The expectation that President Carter will be even more cautious on the issue than President Ford reinforces the view that a major international reconsideration of reprocessing is under way.

Reports which leaked out from a meeting of the London Nuclear Suppliers Club held in the middle of November lend some support to this view. The club, which first met in the summer of 1975, now has 14 members (United States, United Kingdom, France, Soviet Union, West Germany, Japan, Canada, Belgium, Czechoslovakia, East Germany, Holland, Poland, Italy, and Sweden) and is beginning to suffer from the same internal stresses and strains as other international organizations.

At the most recent meeting several member states are understood to have complained about pressures brought to bear on two contracts which involve the transfer of reprocessing technology—a contract between West Germany and Brazil, and one between France and Pakistan. Ever since these contracts were agreed on, extensive diplomatic pressure has been brought to bear on France and West Germany to cancel or modify them. The major source of such pressure has, of course, been the United States. Apparently as a result of this pressure, both West Germany and France indicated in mid-December that they would foreswear exports of reprocessing technologies in the future. The similar announcements, coming only days apart, seemed to signal a shift of policy, but left the status of the existing contracts with Brazil and Pakistan uncertain (see box, page 32).

What the United States has been trying to do, according to the leaked version of the club's last meeting, is to force

*The current exchange rate is about £1 = $1.69.

France and West Germany to implement paragraph 7 of the club's "Guidelines for Nuclear Transfers," originally drafted in November 1975 and agreed to in January last year. Paragraph 7 (again according to a leaked version of the guidelines, which have never been published) reads, in part: "If enrichment or reprocessing facilities, equipment or technology are to be transferred, suppliers should encourage recipients to accept, as an alternative to national plants, supplier involvement and/or other appropriate multinational participation in resulting facilities. Suppliers should also promote international (including International Atomic Energy Authority) activities concerned with multinational regional fuel cycle centres."

The French renunciation of future exports of reprocessing technology was issued in a formal statement, whereas the West German came in response to reporters' questions. However, a West German Foreign Ministry spokesman said that the policy that France announced officially has been the policy of the members of the Nuclear Suppliers Club for some time.

Representatives of a number of countries at the club's recent meeting pointed out that attempts to implement this paragraph, or to strengthen it, would favor the position of the existing nuclear weapon states in the market place at the expense of those who do not have nuclear weapons. In effect, the only people allowed to have sole ownership of a reprocessing plant would be those who already have them—the nuclear weapon states. Everybody else would be obliged to share in bilateral or multilateral plants. Those countries critical of the guidelines warned that attempts to upset the two contracts would meet with growing resistance from other members of the club and from those outside it.

Faced with this view, and the hiatus in American policy brought about by the change of President, Britain may well have decided that now is not the moment to confirm a unilateral decision to go into the reprocessing business. The pressure the United States and Britain can bring to bear will be greater if they can show willingness to bring their own reprocessing plants under the same multilateral control as they are insisting on for the Third World plants.

A Sterling Effort for CERN

The European Centre for Nuclear Research (CERN) is running into budget trouble because of the collapse of the British currency. The British Science Research Council (SRC), which is responsible for paying the CERN subscription, have been facing the necessity of finding an extra £6 million for 1977 to pay the subscription, which is fixed in Swiss francs.

The total cost of running CERN last year was 662 million Swiss francs, of which the British share was 108.6 million. At today's exchange rates that represents more than £27 million, against the £21 million it cost before the collapse of the pound. Until mid-December, the British Treasury showed little inclination to come to the SRC's aid, but then found an answer to the problem which involved cooperation on CERN's part. The Treasury agreed to provide a £2.5 million supplement to its contribution. The remaining £3.5 million required will be made up by refunds on past contribution and some rescheduling of other research grants.

Officials of CERN have not been too concerned about the problem, expressing confidence it could be solved. British high energy physicists, on the other hand, are anything but happy, as they fear that the SRC, in the longer term, can only raise the extra money by closing down both British high energy physics laboratories, Rutherford and Daresbury. By 1980 the SRC expects to cut high energy physics spending from £41 million a year to £29.5 million, which will cover the CERN subscription and not much more. British physicists at CERN say that this will inevitably reduce the quality of the British contribution to high energy physics.

The British problem, although especially acute because of Britain's parlous economy and the falling pound, is not in essence different from that of other European countries. "Science money in Europe is going down and that is worrying," says John Adams, the Executive Director-General of CERN. "CERN's money is going down by 5 percent a year at the moment, we're running staff down at 2 percent a year and we have had a block on recruitment for the last 18 months." From this side of the Atlantic it's beginning to look as if the golden age of high energy physics is over just as the scientific results have begun to get interesting again.

Bad Case of JET Lag

Europe's stumbling attempts to collaborate in fusion research recently suffered another serious setback. The plan to build a large fusion experiment, the Joint European Torus (JET), has been stalled for months over arguments about where it should go. The European Community's research ministers had been expected to make a final decision on JET at a meeting on 20 December, but the French refused to bow to the majority and put the matter to a straight vote, thus blocking action.

The European Community's commissioner for research, Guido Brunner of Germany, commented that this meant that JET was "on its deathbed," and estimated its chances for survival at one in ten. Most observers feel that Brunner's gloomy prognosis was calculated to exert political leverage in behalf of JET, but the dispute over location obviously remains a serious one. The JET experiment has been planned by a team based at Culham, in England, and financed by the European Economic Community. The European Commission (the top-level officials who run the European Economic Community) decided that the project should be based in the EEC's own laboratory at Ispra in Italy. But neither France, Britain, nor West Germany thought this was a good idea, since Ispra has no experience in fusion research. Each offered a site of its own which it claimed was more suitable.

The in-fighting went on for more than a year in a variety of EEC committees without result. Finally it arrived on the agenda of the Council of Ministers meeting on November 18, and seven out of the nine EEC members voted for a site where the experience of research in fusion was considerable. That ruled out Ispra and the French site Cadarache, leaving only Culham and the West German site, Garching.

Most observers concluded that Culham has the best chance of getting the JET. It would fit in well with existing research at the laboratory, which has been Britain's center for fusion reseach for many years. But Britain would have to pay for the privilege of playing host. The country which is host to the JET is expected to pay a higher share of the cost, in return for the advantage of having it on its own soil. This "site premium" could be as much as £10 million

and it is far from clear that Britain would be willing to pay that much money in the middle of an economic crisis for the pleasure of acting as host to JET. The immediate question, however, is whether there will actually be a JET Project for a host country to accept or refuse, and that appears to be up to the new EC commission which is taking over in Brussels and is expected to take yet another look at JET.—NIGEL HAWKES

Nigel Hawkes will be reporting regularly on science and technology in Europe. He is the science correspondent of The Observer *in London.*

The New York Academy of Sciences: A Bid for Greater Influence

After years of inbred complacency, the traditionally aloof New York Academy of Sciences has launched a major effort to become active in public policy issues and exert influence on the general public and its political leaders.

The new effort is the result of several years of internal debate within the venerable academy, which has heretofore contented itself with catering to the needs of its 26,000 science-oriented members, about one-third of whom come from metropolitan New York, one-third from elsewhere in the United States, and one-third from foreign nations.

The first tangible evidence of the new thrust is the appointment of two individuals to key leadership positions on the academy staff. Sidney Borowitz, 58, an atomic physicist who is now chancellor and executive vice president for academic affairs at New York University, will take over as the academy's full-time executive director on 1 July, filling a post that has been vacant for 2 years. And Robert Ubell, 38, former vice president and editor-in-chief of Plenum Publishing Corp., which specializes in scientific books, has been appointed editor of the academy's magazine, *The Sciences*, replacing the previous editor, Mort La Brecque, who was fired.

The prime movers in pushing the academy toward a more activist role are said to be a handful of scientists on the board of governors, including Philip Siekevitz, professor of cell biology at Rockefeller University, the president in 1976; Herbert Kayden, professor of medicine at New York University School of Medicine, the current president; and Philip Feigelson, professor of biochemistry at Columbia University College of Physicians and Surgeons, the president in 1975.

For most of its recent history the academy, which was founded in 1817, has been known chiefly for its services to members and the scientific community. Its most prestigious undertaking is the sponsorship each year of some 15 or more international scientific conferences whose proceedings are published as the *Annals*. "We get first-rate people at the conferences," says Kayden. "That's really the reputation of the Academy." The academy also has 22 largely autonomous scientific sections that hold monthly meetings to explore current topics in their respective fields. The organization, which is headquartered in a stately townhouse at 2 East 63rd Street in Manhattan, is operating on a budget of $2.6 million this fiscal year, of which about $1.4 million will come from sale of publications, $800,000 from membership dues, $300,000 from grants to support the conferences, and $100,000 from miscellaneous sources.

A Glossier Magazine

The only visible change at the academy so far is a revamping of *The Sciences* that took effect with the November/December issue. The format has been completely redesigned to give the magazine what Ubell, the new editor, calls "a glossy mass circulation look" as opposed to its previous "house organ look." And a roster of distinguished authors has been lined up to contribute articles; previously the magazine was largely written by journalists. Contributors to this first issue in the new format include Sen. Edward M. Kennedy (D–Mass.) on medical research and health care funding; Harvard biologists Jon Beckwith and Larry Miller on "the mask of objective science;" Johns Hopkins sexologist John Money on childhood sex research; and science administration specialist Virginia White on how women can gain scientific independence by winning grants. Louis Lasagna, the Rochester University drug expert, contributed a blast at the media's reporting of drug abuse problems, the first of what will be a regular column reviewing press reports on science and medicine. And Bernard Dixon, editor of Britain's *New Scientist* magazine, contributed the first of his series of columns commenting on European scientific issues. Future contributors will include such luminaries as Barry Commoner, Jonas Salk, Gerald Weissmann, Derek de Solla Price, David Rall, Hans Selye, and Nobel laureates Ragnar Granit and Howard Temin, among others. Some authors get paid, some don't, depending on circumstances.

"We will be publishing articles on the relationship between science and politics, the arts, economics," Ubell wrote in an enthusiastic recent editorial. "There will be reports on new frontiers in research. News from abroad. Book reviews. Museum exhibits. *The Sciences* will be something that doesn't quite exist today, anywhere—a magazine that meets the intellectual needs of the scientific community. A literate, thoughtful, exciting magazine of science in the midst of culture—not isolated from the world." Ubell told *Science* the magazine will seek to be a little bit like the old science section of *Saturday Review*; will carry articles that would appeal to a sophisticated lay audience such as readers of *Harper's*, *Atlantic*, or *The New York Times Magazine*; and will try to be more sophisticated than *Psychology Today* but less technically difficult than *Scientific American*. The magazine will seek to increase its following and stature among scientists while reaching out to a broader lay audience as well. It currently has some 32,000 subscribers (the 26,000 academy members plus 6,000 outside subscribers), but Ubell hopes to double that in a year and a half or so through a vigorous promotion effort. The magazine has been a bimonthly but will come out eight times next year. It will also actively solicit advertising for the first time.