Threat to solar mission

Washington

European scientists could suffer directly from Mr Reagan's proposed budget cuts through a recommendation that the United States reduce its commitment to the international solar polar mission, a two-spacecraft programme run jointly by the National Aeronautics and Space Administration (NASA) and the European Space Agency (ESA).

Although no details of the reduced commitment have been officially announced, the White House is said to have suggested that NASA should stop work on its own spacecraft. This would effectively eliminate half of the project, and seriously reduce its scientific value, much of which depends on the simultaneous collection of data from the two spacecraft as they follow polar orbits around the Sun.

NASA and ESA officials are now discussing the implications of Mr Reagan's proposal, which could still be modified before the details of the new budget are announced on 10 March. The solar polar mission was threatened with termination by Congress last summer, but survived after vigorous intervention by the State Department and the Office of Science and Technology Policy.

Under the budget proposal submitted to Congress by President Carter last month, the two spacecraft would be launched from the space shuttle, using a modified Centaur launcher as a substitute for the delayed inertial upper stage, early in 1986. **David Dickson**

including an end to grants to states to protect their coastal zones, a 50 per cent reduction in support of college research under the Sea Grants programme, and the deferment of the National Ocean Satellite System (NOSS).

As for the private sector, a firm belief that the federal government should not interfere with the mechanics of the marketplace is reflected in substantial cuts to the Department of Energy's research and development budget. These would eliminate many of the department's efforts to demonstrate the commercial potential of new energy technologies, such as synthetic fuels, coal liquefaction and solar energy; but the aim is to maintain a basic commitment to long-range research projects considered too expensive or too risky by the private sector.

Public reaction to the proposed cuts from the scientific community has so far been muted. This is partly because precise details of where the cuts will fall will not be announced until 10 March and partly because there is little at present to be gained in Washington by speaking out against massive cuts in federal expenditure. Privately, however, laboratory chiefs and university presidents are already pulling all the strings they can, both within Washington's scientific establishment and among their congressional allies, to protect their own research programmes.

Some may already have been effective. A proposal from Mr David Stockman, director of the Office of Management and Budget, to eliminate the National Aeronautics and Space Administration's Galileo mission to Jupiter was removed from the President's message to Congress. Given a decision to defer the Venus Orbiting Imaging Radar, this would have virtually wiped out all future planetary research at NASA's Jet Propulsion Laboratory in California, Mr Reagan's home state.

On other proposals, there are bitter fights in prospect. Most of the projects that Mr Reagan is proposing to defer have been argued for by the scientific community strong and hard. These include NASA's gamma-ray observatory (already approved for funding by Congress), the National Science Foundation's 25-metre millimetre-wave radioastronomy dish and the NOSS satellite system.

Funding for space transportation systems will be maintained at a level adequate to cover the costs of the space shuttle, at the expense of slower development for Spacelab, and the rescheduling of space science flights — Galileo, for example, is likely to be shifted back from a 1985 to a 1986 launch. There will also be no funds for the solar electric propulsion system for which, in the absence of a Halley's comet mission, no applications have been approved.

At the National Science Foundation, budget restrictions will, as previously rumoured, be concentrated on programmes that are "narrowly focused or of less immediate priority" — such as innovation in small businesses and international scientific efforts — as well as on new initiatives in science and engineering education, and on research in the behavioural, social and economic sciences.

In contrast, there would be no reduction in the previously proposed 17 per cent increases for research in the mathematical and physical sciences, or the 20 per cent increase for engineering research. Both are considered by the new Administration to be "of relatively high importance to future technological advancement and to the long-term health of the nation".

In energy research, Mr Reagan is proposing a reduction of $40 million in the $607 million which had been suggested for basic energy sciences. Details of how this cut will be distributed are still being discussed. Most of it is likely to fall on high-energy physics, which accounts for two-thirds of the total, and will suffer the delayed construction of new facilities.

Biomedical research has been left relatively untouched ; where the previous Administration had suggested a relatively modest 9 per cent increase for the National Institutes of Health (NIH), Mr Reagan is suggesting a slight reduction in both 1981 and 1982 funding that will reduce this to 6 per cent. Much of the saving would come from reduced payment to educational institutions for NIH research training, which the Administration says would eliminate the practice of paying more to an institution for a federally supported trainee than would be charged for those who are not federally supported.

The Administration says that even though its proposed new budget for NIH would not fully cover the projected inflation rate — and that real reductions below the present base will therefore have to be made across all NIH institutes — it is committed to maintaining a substantial number of new research awards. It is therefore likely to continue the previous Administration's strategy of focusing on competitive project grants, rather than programme grants or intramural research. **David Dickson**

UK nuclear energy

CEGB sheepish

The British nuclear industry is outwardly unruffled by criticisms from the House of Commons Select Committee on Energy last week (*Nature* 19 February, p.621). The general response is that the committee has misunderstood many of the issues. The strongest reaction is to the committee's criticism of the government's 1979 statement on nuclear power, which the committee took to be a commitment to build one nuclear station a year for the coming decade. This, it is said, was never the intention, so that the committee's recommendation that each reactor should be judged on its merits is already part of public policy.

The Central Electricity Generating Board (CEGB), the organization most sharply criticized, was the most sheepish last week. There is plainly some foundation for the charge that it had not been forthcoming with up-to-date estimates of cost and electricity demand. On the complaint that nuclear power stations are 34 per cent more expensive to build in Britain than elsewhere, Mr Glynn England, chairman of the board, is to meet nuclear suppliers and subcontractors to find ways of cutting costs and improving productivity on nuclear plant sites.

Mr England does not, however, accept the committee's view that the ordering of a second pressurized water station should be delayed for six or more years until the first, now being designed for the Sizewell site, is operating. Detailed studies and a public inquiry should provide enough information for the board to decide whether subsequent reactors should be based on pressurized water (as at Sizewell) or gas-cooled technology.

The Nuclear Installations Inspectorate also says that the committee has misunderstood its role. In particular, it

0028-0836/81/090738-02$01.00

says there would not be enough work for a full-time ultrasonics expert, recommended by the committee for testing pressure vessels, and that this and other work will be contracted out when it lacks the appropriate experts on its own staff.

The inspectorate is nevertheless still short of nuclear inspectors. Thirteen posts out of a total of 102 remain to be filled and salaries are a problem. Although nuclear inspectors' pay is as good as or better than that of other inspectors, it is below that in the industries from which it has to recruit. The problem — that the inspectors' salaries are linked to civil service pay — cannot be solved by removing the inspectorate from the Health and Safety Executive, which the inspectorate says would complicate licensing procedures.

The committee is said also to have misunderstood the role of the chief scientist at the Department of Energy and of the UK Atomic Energy Authority in advising the government on nuclear matters. The Department of Energy says that its chief scientist is responsible for nuclear advice but that there were exceptions when Dr Walter Marshall held the post as well as that of deputy chairman of the UK Atomic Energy Authority. Dr Marshall's version of this difficulty is different. He said last week that during his spell as chief scientist at the department, he felt no conflict of interest but, with the minister's agreement, meticulously kept the chairman of the authority informed of the advice he gave on nuclear matters.

The response so far to the report has been laconic and avoids detail. A more considered reply is likely to be published by the Department of Energy some months from now. Another contribution is likely to come from the Monopolies and Mergers Commission when it makes its views known on the structure of the electricity supply industry on 2 March.

Judy Redfearn

Authority more critical

The United Kingdom Atomic Energy Authority made a forceful response last week to the critical report of the House of Commons Select Committee on Energy (see *Nature* 19 February, p.621) Dr Walter Marshall, the bulky and voluble Welshman who succeeded Sir John Hill as chairman at the weekend, was quickly in action with his account of where the select committee had gone wrong.

The committee's wrath was directed chiefly at the Central Electricity Generating Board, but it also asked that the authority's role in the development of

No-doubt Marshall

nuclear power in Britain should be restricted to research on long-term projects (fast reactors and fusion devices) and others where interested parties chose to commission work.

Marshall argues that this conclusion is mistaken. Thus he justifies the authority's work on the safety of pressurized water reactors (now costing £10 million a year) on the grounds that the authority is more independent than the would-be builders of the plant, the generating board, and less likely to continue indefinitely in the field than, say, the Nuclear Installations Inspectorate.

On the select committee's opinion that the authority should not be the public shareholder in the National Nuclear Corporation, the publicly supported construction consortium, Marshall says that the only effect of such a change would be to replace him by a civil servant as a director of the corporation. At present, he says, the authority's representation is the only source of independent criticism on the board.

The recommendation that the authority should quickly make an assessment of the Canadian CANDU heavy-water reactor system is similarly unwelcome. Marshall says that the committee has underestimated the difficulty of adapting even well-established reactor systems to British safety regulations, and estimates that a proper assessment would require two years of hard work. He points out that the select committee overlooked the authority's role in the development and management of the nuclear fuel cycle.

Dr Marshall's succession as chairman of the authority — he has been waiting in the wings for several years — presages a change of style. He is both outspoken and ebullient. He has his roots in the research establishment at Harwell (where he will keep an office). Last week he was saying that there will be no cause for changing the role of the authority until fast reactors are commercial realities some time in the next century. But he plans that the authority should become more skilled at explaining what it is about.

UK science research

On the move

The Science Research Council's attempt to foster mobility among British academics has made a modest beginning. The first four awards under the council's Special Replacement Scheme were announced last week. The scheme is designed to release senior academics from routine duties for five years, replacing them with younger people, usually postdoctoral researchers. The four awards will be followed by a further eleven before July, after which the council hopes to make ten awards a year.

The first four awards go to people who will be released from some or all of their administrative and teaching commitments for up to five years, enabling them to concentrate on their research interests. Each of the four departments is advertising a vacancy for a lecturer, whose appointment will be financed wholly by the Science Research Council for the first five years of his tenure. In every other respect, however, those appointed will be fully-fledged members of the academic staff.

Here the similarity ends. Some of the senior academics will return to their original position after five years. During that time, the department, which has guaranteed tenure to the new appointee, will have either found money elsewhere or lost a member of staff (by foul means or, more probably, fair). In other cases, the senior person will himself be retiring.

The Science Research Council, which has designed the scheme for flexibility, makes no stipulation about the areas of research involved, although it does intend to be represented on the selection boards for new appointees. In the cases so far announced, one professor should gain a member of staff in his own field of research, while another's department is to advertise for applicants for any of its research areas. Much discussion takes place behind the scenes between the council and the university concerned, and Sir Harry Pitt (ex-vice-chancellor of the University of Reading) is go-between and honest broker for the scheme.

The Science Research Council, through its boards and subcommittees which allocate grants among the applicants (30 of whom are now being considered), hopes to ease stagnation in research areas that it feels deserve encouragement. Awards have been given to Professors D. H. Everett (physical chemistry, Bristol), J. G. Powles (physics, Kent), M. Symons (chemistry, Leicester) and R. Butterfield (civil engineering, Southampton).

Philip Campbell

Community research

Project sharing?

Brussels

The European Parliament has now called for more community research. This arose at a meeting between the Parliament's Science and Energy Committee, the Dutch Minister for Science and Technology, Anton van Trier, and Dr Guenter Schuster, the director general for research, science and education of the European commission.

0028-0836/81/090739-02$01.00