X-ray satellite

Plea for summer launch

EUROPE'S X-ray astronomers face an uphill struggle to ensure that EXOSAT, the only X-ray observatory in sight, is launched by next summer. A recent decision by the council of the European Space Agency (ESA) has dashed hopes of an immediate move to launch the satellite either on the next Ariane (L6) or on a Thor-Delta rocket provided by the National Aeronautics and Space Administration (NASA). ESA seems bent on waiting for the scheduled launch on the delayed Ariane L7.

EXOSAT was originally to have been aboard Ariane L6, which was to have been launched in September 1982. The failure of Ariane L5, combined with ESA's decision to launch a communications satellite on the delayed L6, meant that astronomers face an extra year's wait for their launch, with the possibility of degeneration of equipment and the loss of experienced personnel.

Last November, at the request of various research groups (see *Nature* 18 November 1982, p.207), ESA's Science Programme Committee asked the council to "take all actions necessary to secure a successful launch of EXOSAT before the closure of the summer launch window". This unspecific demand was intended to encourage the council to allow preliminary official contacts with NASA about the Thor-Delta option as well as to consider the launching of EXOSAT on Ariane L6 (now scheduled for late May). The committee's choice of words was also meant to minimize the political embarrassment caused by the possibility of a switch from a European to an American launcher.

At its meeting in December, however, ESA's council postponed the decision. As a result, Professor K.A. Pounds of the University of Leicester, a member of the Science Programme Committee, has sent a telex to European astronomers asking them to lobby council members before the next meeting on 19 January. And the Space Science Advisory Committee — a group of scientists that advises ESA — met just before Christmas and sent a resolution to ESA's Director General urging specifically that the Thor-Delta option be explored.

The timing is critical. NASA has a Thor-Delta immediately available for EXOSAT (which was originally designed for a Thor launch), but will require an official request by February for a summer launch to be possible. Ariane L6 is scheduled for launch in late May and, given a turn-round time of about eight weeks, Ariane L7 (and EXOSAT) could only just be launched by the end of the summer "window" in August. Astronomers fear that political pressures and the obligations on Ariane from a queue of commercial satellites could delay EXOSAT into 1984. **Philip Campbell**

UK student maintenance

Loan scheme takes shape

A NEW scheme that would partially replace the British system of maintenance grants for students in higher education with government loans is included in proposals which have been drawn up by Mr William Waldegrave, junior minister for higher education. Under the proposed scheme half of the cost of students' living expenses would be given as a grant, and half would be met by a loan to be repaid over a number of years when the recipient was in full-time employment. The controversial parental means test is, however, retained.

It has been clear for some time that the government favours some restructuring of the student support system, but earlier proposals drawn up by Mr Waldegrave's predecessor, Dr Rhodes Boyson, were shelved, ostensibly because of cost. The new proposals — which have not been finalized and which will have to obtain treasury and cabinet approval before seeing the light of day — will also entail an extra short-term cost, but may be politically more acceptable. It has been claimed that the cost of student maintenance, at present £600 million per year, could be halved under the new scheme.

Although it seems to be accepted that interest on the proposed loans would be paid at below commercial rates, many of the fine details of the plan, such as arrangements for repayment when ex-students are unemployed or are on low incomes, have yet to be decided. Other possibilities considered in the new proposals are suggestions that the grant/loan scheme should apply to students on a wider range of courses than are at present covered by maintenance grants, and that the age at which students qualify as "mature students" and so become independent of parental contributions should be reduced from 25 to 21.

The government is extremely unlikely to make public its detailed proposals on a contentious issue such as this in an election year. The most that can be expected is that if the nuts and bolts of the scheme can be sorted out and meet with political approval, some sort of commitment to a loans scheme will be included in the Conservative Party's election manifesto. The new scheme has, not surprisingly, been greeted with consternation by the National Union of Students. **Tim Beardsley**

United States in the Arctic

Congress warms to the task

Washington

THE United States came a step nearer a comprehensive policy for research in the Arctic when the lame-duck session of Congress, under pressure from the Alaska delegation in the Senate, at last passed an Arctic Research and Policy Act.

Scientists from other nations have long complained at the lack of central research efforts in the Arctic by the United States and Canada, the two largest Western nations with a stake there. Tore Gjelsevick, director of the Norwegian Polar Institute in Oslo, feels that the Soviet Union has the largest, most centralized and most technologically advanced effort in the Arctic. He estimates that there are 20,000 Soviet scientists working on Arctic problems and that the work includes both the area off the Soviet coast and the central Arctic Ocean region.

The United States government set up an inter-agency committee in 1968, and a second committee was set in hand by the National Security Council in 1971 but never actually met. But even the discovery of oil at Prudhoe Bay in 1968 and the plan to build the Alaskan pipeline failed to bring greater centralization or coordination to Arctic research. The new bill, however, would create an Arctic Policy Council with considerable independence. It would have five members: a "chairperson", two Alaskans and two Arctic research experts nominated by the heads of government

departments. The council would guide a new Arctic Research Commission which would be funded with \$25 million in federal funds and additional amounts from Alaskan state oil revenues.

The bill is a by-product of the fight by Senator Stevens and his colleagues to keep open a Naval Arctic Research Laboratory (NARL) which the Navy would like to close. The laboratory is sited at Point Barrow, and is a local employer of some importance. It remains politically popular in spite of its large size and somewhat unclear purpose.

The original version of the bill would have set up an Arctic Research Council consisting of the heads of cabinet departments whose job it would be to decide whether NARL should be kept open and to take in revenue from Alaskan oil development to provide the funds to keep it going. The new version of the bill, however, is far more concerned with Arctic research policy in general, and thus closer to the recommendations made by polar scientists through the US National Academy of Sciences' Polar Research Board.

The new commission will decide the fate of NARL and will have the job of running it if it is kept open. So US Arctic research seems to be gaining something after all, even from the bottom of the pork barrel.

Deborah Shapeley