

Strategic Defense Initiative

Grilling for Abrahamson

Washington

A RARE glimpse of progress and problems with President Reagan's Strategic Defense Initiative (SDI) was offered last week by Lt General James A. Abrahamson, chief of the SDI organization, baited by a feisty Senator William Proxmire (Democrat, Wisconsin), who kicked off the congressional SDI appropriation hearing by declaring "if you expect a 75 per cent budget increase you're in for a rude awakening".

Abrahamson exercised commendable restraint as he outlined changes to the programme since his last appearance before the defence subcommittee of the Senate Appropriation Committee. Space-based chemical lasers, once one of the SDI organization's high hopes, are out; spaced-based kinetic kill vehicles are in. And point missile defence, a more restricted goal than President Reagan's concept of a shield covering the whole United States, will "need study".

The administration's proposed budget for SDI in fiscal year 1987, which starts next October, is \$4,800 million: the current budget is \$2,760 million, 25 per cent less than the President had requested. The rough treatment meted out to Abrahamson by some members of the subcommittee

SSC in doubt

Washington

OBSERVERS on Capitol Hill are becoming suspicious that the US Department of Energy's possible mammoth accelerator project, the 60-mile-around Superconducting Supercollider (SSC), may be a hostage to the Gramm-Rudman deficit reduction act and perhaps to the cost of replacing the space shuttle Challenger. Recent testimony given by representatives of the department makes clear that no decision has yet been taken even to support continuing research in fiscal year 1987 (which starts next October).

The department insists that a decision on whether to build SSC, estimated to cost \$6,000 million, will be made only after it reviews a comprehensive technical report due from the Central Design Group on 1 April.

But the tone is decidedly less enthusiastic than in previous years. Project managers had hoped for \$65 million to conduct research on SSC next year, but even if all goes well the total is likely to be rather less than \$40 million, to be obtained by reprogramming from elsewhere in the high-energy physics budget. In any event, the project is big enough to require cabinet level approval before it goes ahead. Actual construction funds could not be expected before fiscal year 1988. Tim Beardsley

tee last week owes something to the fact that, alone among military programmes, SDI has been totally exempted from cut-backs in the current financial year resulting from the Gramm-Rudman deficit reduction law.

But Proxmire — who dominated the proceedings though not formally in charge — also ridiculed the SDI organization's decision to classify a report on SDI contracts prepared by the General Accounting Office entirely from unclassified sources.

Declaring that all the information in the now classified report was readily available through other official and private publications, Proxmire demanded whether Abrahamson thought "the Soviets haven't got \$625 (the cost of the documents) and a calculator". Abrahamson thought it was not in the national interest to have details of SDI contracts and contractors listed in a single, easily obtained volume.

Abrahamson went on to unburden himself with some admissions of greater than expected technical problems that have been encountered in discriminating real warheads from decoys. The SDI organization's "red team" (set up to think of ways in which the Soviet Union might counter SDI) has made US versions of Soviet warheads and possible decoys so successfully that the blue team was forced to conclude that "passive discrimination is not quite sufficient" to tell them apart. Undeterred, Abrahamson explained how he now hopes to use low-power neutral particle beams and "cheap" detectors for "interactive discrimination" — although "more research is needed at this time".

Research on space-based lasers has been slowed "with a profound sense of technical regret" because of budget pressures, Abrahamson explained, in order to avoid accepting slippage in the more promising parts of the programme.

Proxmire was unforgiving. After reminding Abrahamson that the organization had cancelled a \$62 million contract for space-based infrared sensors because costs had exceeded estimates (and settled for a less capable sensor), he demanded to know "why Congress should believe the priorities won't change again" and whether it was not that the SDI organization had come to realize that space-based weapons were militarily vulnerable. Abrahamson replied with an allegory: just because aircraft are vulnerable to attack they have not become militarily useless, he said. Anyway, satellites could be defended but details were classified.

Abrahamson averred that in other areas research had been more successful than expected. (Very fast rockets in pods in space apparently look good.) But he did

provide one hint of where the SDI organization might be going if indeed, as many critics contend, an overall missile defence shield over the United States proves technically too daunting, although this was not a possibility Abrahamson thought at all likely.

While a decision on the feasibility of the population shield should be possible by the mid-1990s, according to Abrahamson, a decision on a more restricted goal of point missile defence should be possible somewhat earlier, perhaps as soon as the early 1990s.

Tim Beardsley

Canadian budget

New twist

CANADA has introduced a "brand new twist" to the budget process in an attempt to increase money for research, and provide university research councils with "stability of funding for the next five years". But many, not least the research councils themselves, are not too clear on how this stability is to be achieved.

The new scheme is designed to increase private sector support for research. Starting in fiscal year 1987, the government will match dollar for dollar contributions from private industry to research councils, up to a total of 5 per cent of an individual council's budget. The problem is that nobody is sure how the matching scheme will operate in practice, and the government is still working on an explanation.

Moreover, after increases for Canada's three research councils in the first year of the five-year plan, the government's core contribution drops, and any increase will have to come from the matching funds scheme. Uncertainties about how much this will amount to has forced the Natural Sciences and Engineering Research Council (NSERC) to cancel plans for expansion, and even at current levels NSERC will have to cut back its programme.

If the private sector does embrace the plan, the budgets of the research councils will increase by \$1,000 million over the next five years. The government is in the process of overhauling the tax structure to encourage private investment in research council projects.

A joint statement issued by the Canadian Association of University Teachers and the Association of Universities and Colleges of Canada expressed "grave concern" about the government's plan. While not opposed to closer cooperation with business, the university groups worry about how the relationship with industry will be defined.

A big loser in the budget battle is the Science Council of Canada. The council's budget was cut by half to \$2.5 million, and its full time staff was reduced from 68 to thirty.

Joseph Palca