Nuclear science faces cuts

Washington

THE US Department of Energy (DOE) plans to cut spending on nuclear science by 10 per cent in fiscal year 1993, a move that will probably force the closing of at least one major nuclear science facility.

William Happer, director of DOE's Office of Energy Research, met with members of the Nuclear Science Advisory Committee in East Lansing, Michigan, last week and asked them to recommend how to rearrange spending priorities in the face of such a cut. It won't be easy, said Peter Paul, a physics professor at the State University of New York at Stony Brook and chairman of the advisory committee. "Nobody really wants to accept such a cut," he said. "We will have to shut down one of our two main projects" — either the Los Alamos Meson Physics Facility or the Relativistic Heavy Ion Collider (RHIC), now under construction.

Faced with increasing environmental costs and an overall spending cap imposed by the Budget Enforcement Act of 1990, the DOE has been forced to cut back sharply on its planned spending for basic research (see *Nature* 353, 287; 26 September 1991). The decreases have already forced the fusion community to cancel its Burning Plasma Experiment, which was

planned as the successor to the Tokamak Fusion Test Reactor (*Nature* 353, 372; 3 October 1991), and the High Energy Physics Advisory Panel met 28-29 October to discuss how to deal with smaller budgets for that field.

Although Paul would not give precise details on what the nuclear science panel will recommend to Happer, he did say that the committee "reaffirmed the high scientific value of RHIC". This seems to imply that if something has to go, it will probably be the meson facility at Los Alamos National Laboratory. But closing that facility will not be enough, Paul said — several smaller programmes will also have to be closed if the nuclear science budget is to be cut by 10 per cent.

Happer also asked the committee to make recommendations for the four years after 1993, assuming three different scenarios: spending that remains fixed at the 1993 level without taking inflation into account; budgets that stay even in real, inflation-adjusted terms; and budgets that have 2 to 3 per cent real growth. The committee's recommendations for fiscal year 1993 should be ready soon, Paul said, but it will take longer to decide on how to set priorities for the longer-range budgets.

Robert Pool

Ozone report puts US policy in question

London

ACCORDING to US environmentalists, last week's United Nations Environment Programme (UNEP) report on the state of the ozone layer (see *Nature* 353, 688; 24 October 1991) not only demands urgent action to further reduce emissions of ozone-depleting chemicals, but also undermines the US Administration's policy on climate change.

The United States has so far refused to set a target date by which US emissions of carbon dioxide will be stabilized, even though other nations have set dates. The Bush Administration has instead argued that total US emissions of greenhouse gases will be no higher in 2000 than they were in 1987 (see *Nature* 348, 4; 1990). Although US emissions of carbon dioxide are forecast to rise, this will be offset by reductions in the emissions of other greenhouse gases, according to a 1990 report from the Environmental Protection Agency.

The EPA prediction is based on the relative warming effects ascribed to different greenhouse gases by the Intergovernmental Panel on Climate Change (IPCC) in its 1990 report. But according to the new UNEP ozone report, it seems that the warming caused by chlorofluorocarbons (CFCs) may be less than was thought by the climate panel. UNEP's ozone monitoring experts now say that CFCs can have both a warming and a cooling effect (the latter occurs because ozone depletion causes cooling of the lower stratosphere, which then radiates less heat down into the troposphere). Colin Johnson, from AEA Environment and Energy in Oxfordshire, and a member of the UNEP group, says the warming and cooling effects "seem rather similar in magnitude". When the UNEP report was completed earlier this month, he says, several atmospheric scientists suggested that this similarity could explain why the observed increase in global temperatures has so far lagged behind theoretical predictions.

If CFCs cause less warming than was thought, then the US Administration's claim that reductions in emissions of CFCs will offset the warming caused by increased US production of carbon dioxide may no longer hold true. Dan Lashof from the Natural Resources Defense Council is cautious — the cooling effects of CFCs have been shown only in some regions and at particular times of year, he says — but he argues that the new data support the line taken by the European Communities (EC) at last month's climate convention negotiations in Nairobi. At that meeting, EC negotiators rejected the US position that any controls on greenhouse gases should take into account all emissions, not just carbon dioxide.

Peter Aldhous

New quarters for the Superconducting Super Collider

Its future is still very much up in the air, but the Superconducting Super Collider (SSC) now at least has one foot on the ground. This month the laboratory completed its first permanent building: a 100,000-square-foot facility in which researchers will engineer and construct some of the superconducting magnets that will guide and focus particle around the planned 54-mile underground ring.