

## Oil prices hamper oceanography

FOR most users of oil the recent price rises have simply meant paying more for the commodity and finding ways of living with the greater expense. For some, particularly those receiving fixed sums of money from the government, paying more is not possible without going bankrupt. In scientific research the worst affected are the oceanographers.

In Britain the Natural Environment Research Council (NERC) operates many of the research ships for universities and its laboratories. Largest of these are the *Bransfield*, *Discovery*, *Shackleton* and *Challenger*, although there are many smaller vessels some of which are the direct responsibility of individual universities. An official of the NERC pointed out that there would be an increase of "several hundred thousand pounds" in the 1974 fuel bill for these ships, this in a total budget for the operation of research vessels of only £1.5 million. As yet the NERC has not been able to extract any promises of extra money from the Treasury, so although marine operations are for the present carrying on as usual, within a few months there is a serious danger that cruises will have to be curtailed or cancelled.

One oceanographer expressed concern that the short term problems with oil prices should not affect long term decisions on building new oceanographic vessels. "It is clear that large scale capital expenditures are very vulnerable at times like these", he said, "but we cannot indefinitely postpone the renewal, let alone the expansion, of our oceanographic fleet". At present there are no new ships planned but there seems to be a general feeling both that some vessels cannot last much longer and that oceanography actually needs more ships to satisfy the demands of research workers. It looks, however, as if survival at the present level of activity is going to be the most that the NERC can aim for in the next year or two.

## Soviet reactor accident: official

from our Soviet Correspondent

REPORTS of a serious accident to the BN-350 fast breeder reactor at Shevchenko on the Caspian Sea, although strenuously denied by official Soviet resources, do seem to have some foundation in fact, although the failures involved belong to the field of conventional, rather than nuclear, engineering.

According to Dr N. V. Krasnoyarov, interviewed when in London for an international conference on fast reactor power stations, three out of the six

generators of the Shevchenko station have, in fact, been taken out of service following faults in the interface of the secondary (sodium) and tertiary (water) circuits. In one case, the leakage of water into the sodium of the second circuit was observed at a very early stage and the generator was immediately closed down; in the other two cases, the water, reacting on the hot sodium with consequent liberation of hydrogen, caused a pressure buildup which resulted in the rupture of what Dr Krasnoyarov called "special safety membranes" (presumably bursting disks); the products of the reaction were conveyed to a special dump tank and the generators concerned were closed down.

All three faulty generators are now undergoing repair; in the meantime, the other three are being operated at below nominal capacity, giving a total output at the station of some 30% of its rated power. The deficit of power required for electricity generation and desalination is at present being supplied by the conventional oil-fired generators which the BN-350 was designed to replace but which were retained as a peak-demand backup. The primary (radioactive) sodium circuits were in no way involved.

The rumours that more serious damage had been detected by United States surveillance satellites seem to have grown by a snowball effect, from 'If

## Better deal for polytechnics

THE 30 polytechnics in Britain are to get a better deal from the Science Research Council (SRC) as far as postgraduate studentships are concerned but the criteria governing the award of research grants will still favour university-type research. This move follows the report of the SRC's Polytechnics Working Group which has been considering the relationship between the SRC and the polytechnics since 1972.

The SRC is to put its new plans into operation through a new Committee on Postgraduate Training in the Polytechnics, which has been set up for a three-year period under the watchful eye of Dr A. H. Chilver, Vice-Chancellor of the Cranfield Institute of Technology. The Committee will be empowered to award advanced course studentships (usually lasting one year and aimed at the taught postgraduate course which the polytechnics have been encouraged to set up).

As to the award of research studentships, usually held for three years, the new committee will only advise other parts of the SRC "on any special factors to be taken into account in the award of research studentships to polytechnics". The SRC is keen that this should result in the channelling of more of

there had been a serious accident, the satellites would have detected it' to 'The satellites have detected a serious accident', and the July dating seems to have crept in by confusion with the date of commissioning of the station. The growth of the story was in no way quenched by the tone of the official denials. According to the Novosti agency, Academician Andranik Petrosyants, Chairman of the State Committee for Atomic Energy of the Soviet Union "emphatically denied" that anything untoward had occurred. Instead of the reasonable explanation offered by Dr Krasnoyarov, Academician Petrosyants simply maintained that "all this information does not correspond to reality" and that the report "is an invention and obviously pursues some other aims", being directed against Franco-Soviet cooperation in fast breeder reactors. "It is evidently of benefit to some people to try to do damage to that cooperation and set public opinion against that cooperation by inventing 'explosions'."

The tone of the denial seems inspired by considerations of prestige, rather than a desire to impart information. Perhaps if Academician Petrosyants had, in the name of the "cooperation" he advocates, been a little more forthcoming about what are after all relatively minor faults, his denial of a major disaster might have been found more credible.

the so-called CASE awards (Cooperative Awards in Science and Engineering) to polytechnics, thus giving a fillip to the cooperation between polytechnics and industry which the Department of Education and Science has always been keen on. At the end of 1972 students in polytechnics held 1.7% (104) of all SRC research studentships and 2.9% (45) of its advanced course studentships.

The volume of research in polytechnics is bound to increase in the next few years because by 1981 the government plans that there should be 180,000 undergraduate and postgraduate students in polytechnics on full-time or sandwich courses, compared with 68,000 in 1972. Clearly there will be a big demand for whatever the SRC has on offer.

Dr J. S. Bosworth, Director of Newcastle-upon-Tyne Polytechnic, said last week that the SRC's plans are certainly a good step in the right direction. He pointed out, however, that it is particularly important for polytechnics to get together with other interested parties and define just what research they are to do. In this way, he said, it should be possible to arrange a framework in which polytechnic-type research could be sensibly planned and carried out.