

Sweden's reactor problems

from Wendy Barnaby, Stockholm

THE Swedes have not yet been notably successful in the efficiency of their nuclear technology. Current frustrations in the eight-reactor building programme now under way include altering the cooling systems of two reactors, replacing a fatigued metal part in another and putting up with delays in construction in a fourth. And there was, of course, the famous Marviken reactor, whose design was so faulty that it could never be made operational and was converted to work on oil. (Critics of this waste of money labelled the project "the first oil-fuelled nuclear reactor in the world"; a designation quickly adjusted, during the oil crisis, to "the world's first wood-fuelled-oil-fuelled nuclear reactor"). But now it seems that Sweden's nuclear power programme is running into difficulties of quite another sort.

Until the last couple of years, the large-scale development of nuclear energy in Sweden was accepted by the country without controversy. The consumption of electric power was predicted to increase three-fold by 1990, but expansion of hydro-power, which provides 70% of all Sweden's electricity, was regarded as a non-starter for environmental and economic reasons. Coupled with Sweden's poverty in coal, oil and natural gas, this problem put a high priority on the development of alternative energy sources. Nuclear power was the obvious choice. The government drew up plans to build 24 reactors by 1990. The country was to approach the next century as the world's leader in reactor capacity per capita.

All this had reckoned without the activities of an increasingly vocal anti-nuclear power group, whose agitation caused parliament in May 1973 to suspend approval of the official plan until it had been presented with more comprehensive information about reactor safety and radioactive waste. The parliamentary decision did not affect the reactor in operation since 1971 or those already under construction, but postponed consideration of the future of the other sixteen until next year. The advanced state of the programme has, in effect, solved the question of whether to have nuclear power. At issue now is how much Sweden should have in the light of current safety measures.

The fact that Sweden has not yet signed a safeguards agreement with the International Atomic Energy Agency under the Nuclear Non-proliferation Treaty, and the significance that could have in a large-scale peaceful nuclear

programme (especially after the explosion of India's bomb), has not been at issue. To begin with, the Swedes are expected to initial a safeguards agreement next month; but, more importantly, all the parties to the dispute agree that Sweden will not manufacture nuclear explosives.

The dispute has caused an odd political line-up. The ruling social democrats and the conservatives both favour the large-scale development of nuclear energy, while the agrarian and communist parties are against it. The anti lobby claims widespread public support, quoting as evidence a survey commissioned by the State Power Board and private producers of energy last January, at the height of the fuel crisis, to find out whether people favoured nuclear power or not. The results were not made available to the press. Not until a 'Friends of the Earth' group forced their publication in June could it be ascertained that 59% of the sample had in fact opposed nuclear power. In spite of this support, however, the anti group is worried about the plentiful funds being made avail-

able for pro-nuclear pamphlets and educational material which will be circulated to union study-groups this autumn.

Autumn will also bring publicity for the anti group, however. A number of citizens living near a new reactor site will appeal against the decision of a so-called 'Water Court' to allow the construction of the reactors planned for the site provided that certain measures are taken to safeguard the environment. Under a law outdated since these events began, such a court was obliged to review the potential dangers threatened by any proposed building to the water environment before permission could be given for the building to be constructed. The action will take place in the court of appeals dealing with questions involving water, and the argument will of necessity be limited to those aspects of nuclear power dependent on water. The public can therefore expect to hear a lot about dangers involved in a failure of the emergency cooling system and the pollution of waterways with radioactive material, but little about other nuclear hazards.

Inflation and Imperial College

by Roger Woodham

AT a time when many British universities, notably Leeds, are reporting that they are in the red by hundreds of thousands of pounds, the Imperial College of Science and Technology in London is still firmly in the black, thanks to some wise financial management a year or so ago.

In the year ended July 1973, for example, the college spent some £11.8 million but managed to salt away £635,000 to swell its reserves to £767,000. This was achieved by obliging all departments to reduce their budgets by 6%. The result was that earlier this year, with plenty of money in the bank, the college was able to embark on a modest expansion programme when many other universities were watching their margins closely.

The position now is that the reserves stand at about £250,000 and the college is faced, like other universities, with a government decision to be less than generous about supplementing the University Grant Committee's recurrent grant to allow for inflation. The government assessed the situation several months ago on the basis of the rise in costs during the calendar year 1973, with a view to paying the extra

money during the academic year 1974-75. The first estimate of the increase in costs came out at 7%—some £13.5 million—and the government declined to give the universities any more money at all. But the increase in the index was subsequently revised upwards to 10%+, representing more than £21 million. At this stage the government announced that it would provide £4 million which, together with about £3 million which the UGC had at its disposal for emergencies, just kept the total deficit to the level the government originally envisaged.

Although the Committee of Vice Chancellors and Principals welcomed the government decision to make the extra money available, its view is that the recurrent grant should be restored to its proper level and its value then maintained in real terms.

What Imperial College is now waiting to find out is how much of the £4 million will come its way. On previous experience the amount will be in the region of £150,000 to £200,000, but Mr M. J. Davies, secretary of the college, said last week that the extra money would at best keep the ship afloat and would not allow for any growth. He also described the college's remaining surplus of around £200,000 as a cushion which is rapidly disappearing. If things get much worse, he said, Imperial College will be in the same situation as other universities.