

NEWS AND VIEWS

Vienna Safeguards

THE International Atomic Energy Agency seems to have taken a still firmer grip on the problem of safeguarding the uses to which nuclear fuels are put. In the past few months it has been working out a procedure for extending the existing safeguards regulations, finally approved a year ago, to apply to reprocessing plants as well as nuclear reactors. The working group responsible for the original system was re-convened in February this year, and extensions to the safeguards system were approved by the Board of the Agency in June. This step, described in the annual report of the Board of Governors for the year ending on June 30, 1966, will go a long way to meet the criticisms of those who have argued that the control of re-processing plants is more important than the control of nuclear reactors in preventing the misuse of fissionable material.

An impressive number of nuclear installations now comes under the umbrella. By the beginning of 1967, it is expected that seventy-five installations with an electrical capacity of 4,500 MW will be concerned. The Agency is also planning to develop automatic monitoring devices which may make it possible for inspectors to follow some of the physical operations at reactors without being on the spot. Of the fifty-four reactors subject to safeguards at the end of June 1966, only seven were power reactors capable of producing more than 20 MW of electricity. The cost to the Agency of these activities is still relatively modest, and is expected to amount to just under half a million dollars in 1967.

The complete budget is a reminder that the Agency is still a relatively small organization. The total staff, from the doorman to the Director-General, will number 729 in the coming year. The estimate for 1967 of \$11.9 million is actually somewhat less than for the preceding year. More than three-quarters of this sum will be spent on administration, but there is also room for some scientific work. The Vienna laboratory will take \$200,000, and the International Centre for Theoretical Physics at Trieste a little more. The Monaco Laboratory will use \$45,000, and the programme of technical assistance and training will cost nearly \$2 million. As a whole, the record of good works is so respectable that it is all too easy to forget the troubles which attended the Agency's formation a decade ago, and which may yet break about its head.

Farmers' Weather

THE hope of a more trusting relationship between farmers and meteorologists was clearly to be inferred from a conference sponsored by Unesco and held last week at the University of Reading. It was the first international symposium on "Methods in Agroclimatology" and was attended by more than 120 people from thirty-six nations—meteorologists, agronomists, horticulturalists, foresters and even physicists. The purpose of the meeting was to survey the present contribution of meteorologists to agronomy, and to see what further benefits can be obtained.

It is not, of course, surprising that links between meteorology and agriculture are difficult to create. At

Reading it was clear that efforts are now needed in almost diametrically opposed directions. First, there is a need to examine meteorological processes on the micro-scale so as to study the effect of the environment on the growth of plants, the productivity of animals and the epidemiology of pests and diseases. But, at the same time, there is also an urgent need for practical surveys on a macro-scale. Work of the second kind is indeed one of the essential needs of agricultural planners, particularly in developing countries where the rapid development of agriculture has to be guided by pure reason and not by the accumulation of unformulated tradition which determines agricultural practice in well-developed countries. Yet it was also plain, from the papers read at Reading, that experienced countries such as Japan and Great Britain have much to gain from the full exploitation of climatic potential. There was, for example, a detailed survey showing how more fruit could be grown in western counties of England.

A proof of the success of macro-surveys was the set of papers describing the surveys carried out by agencies of the United Nations, principally Unesco, FAO and WMO, in semi-arid areas. The general feeling at the symposium was that these surveys were a good beginning, and greatly to the credit of those who had carried them out. At the same time, it was now necessary to fill in some of the details of the relationship between climate and agricultural potential, particularly in the Levant and south of the Sahara.

The conference was also concerned with the modifications of the relationship between climate and agriculture which may be brought about artificially by irrigation and the provision of shelter, for example. There was also some speculation about different trends of climate. The conference was reminded that comparatively small changes of climate have in the past contributed to the downfall of nations, particularly around the Mediterranean, and that future plans for the development of land may be vitiated by similar alterations of the limits on agricultural practice. At the symposium there were also some suggestions as to how agriculturalists might codify their perpetual game with the weather along the lines spelled out by the games-theorists. Throughout, the mood of the conference was opposed to the view that it will be easy to make full agricultural use of climatic potential.

Fuel Enough

THE O.E.C.D. has taken a cautious but cheerful line in its most recent report on the balance between the supply of energy and the demand for it. The calculations and extrapolations of the group of officials responsible for the report suggest that between now and 1980 "resources are largely adequate to cover any foreseeable demand". More cheerfully still, it is thought probable that this comfortable balance can be achieved without moving too far from the present cost of energy.

Within the O.E.C.D. area as a whole, which includes North America and Japan as well as Europe, the increasing competitiveness of nuclear energy and of natural gas are given as the principal sources of price stability in the decade or so ahead. Nuclear energy, in particular, is said to be on the way to being "fully competitive in the near future". The authors of the report consider that nuclear energy will tend to set a