

Insuring Nuclear Power

VERY soon, the Paris convention on third party liability in nuclear energy will come into force. The convention, which provides the principles on which international agreements on nuclear liability are based, was signed in Paris on July 20, 1960, but does not come into force until it and an additional protocol are ratified by five governments. The convention has now been ratified by Turkey, Spain, the United Kingdom, France and Belgium; the additional protocol, which is designed to avoid conflict with another international convention—the convention on civil liability for nuclear damage, defined by a conference in 1963 convened by the International Atomic Energy Agency—has been signed by the same group, with the exception of Turkey. Turkey is now on the verge of ratifying the protocol, whereupon the whole convention will come into force.

The subject is complicated. Briefly, the convention provides five principles on which legislation should be based. The operator of the nuclear station is absolutely and exclusively liable—without proof that it is his fault—for any accident, but only if claims are made within ten years of the incident. The convention limits the amount of liability, in principle, to \$15 million, and obliges the operator to cover his liability by insurance or otherwise. All claims arising from the same incident should be dealt with in the same court, in the place where the incident took place, and all countries who are party to the convention are obliged to accept the court's rulings. In 1963, the provisions of the convention were extended to provide additional compensation, up to a value of \$120 million, through State intervention.

The convention falls under the jurisdiction of the European Nuclear Energy Agency, which has now published a review of the legislation which obtains in fourteen OECD countries and of how this meets the needs of the Paris convention. Most of the countries have legislation which incorporates the principles of the convention, and some go beyond it. There are, however, some differences—in Japan, for example, accidents during transport are the liability of the consignee. In Germany, there is no provision to limit liability in the event of *force majeure*. Most countries incorporate clauses which free the operator from liability in such cases, or when the claimant was injured as a result of his own negligence or a wilful act. In the United Kingdom, when the victim has been guilty of committing an act with the intention of causing harm or with reckless disregard for the consequences, the amount of compensation may be reduced. In the United States, the cost of an accident can be even greater—the law provides for liability of up to \$560 million.

Books to Borrow

“NEITHER a borrower nor a lender be” may have been good advice for Hamlet, but luckily for the British general public there are people who do not take it too seriously. The National Central Library borrows and lends more each year from its stock of volumes, which has doubled over the past five years to the present total of 364,000. 1,037 current periodicals are taken, 68 of them being in Slavonic languages. The library, which is largely financed by the Department of Educa-

tion and Science—£141,000 last year—has just produced its annual report for 1966–67.

The British library system works on a two-tier basis, with the central library available to answer requests from both parts. Most libraries belong to regional systems, which are as far as possible self-sufficient. Unsatisfied queries are passed on to the central library. Other libraries which, for one reason or another, are not included in any regional system form the second tier and have direct contact with the central library. As overall centre of the national inter-loan system, the central library handled 136,660 requests during 1966–67, with 77.5 per cent success, compared with 128,567, 75.2 per cent, in the previous year. Through the co-operating libraries the central library has access to some 20 million volumes. 7,969 overseas requests were received, of which 83.1 per cent were satisfied, as were 72 per cent of the 9,954 requests made by the central library to those abroad. The total number of applications received by the library rose by 6.3 per cent and were handled despite staff shortages. A successful year was recorded by the library, but it ended with the resignation of its chairman because of ill health. Lord Elgin, associated with the library since its reconstruction in 1930 and chairman of the trustees since 1955, had presided over many important developments in the library's affairs.

Another library publication appeared this week, a list of the current serials received by the National Lending Library for Science and Technology at Boston Spa, Yorkshire. (HMSO, £2.) The alphabetical list has been produced as a by-product of the recording system at the library, and, it is stated, may not include a certain number of titles which are in fact available. Only those titles which were current and at the library in March 1967 are included, but not those which were on order. The list is not intended to deter those who would like to borrow periodicals that are not mentioned, as the library relies on such requests for titles of serials that should be obtained. A large number of cyrillic titles are included in the total of 26,000, and for the first time the social sciences are covered.

Fission of Physics Journals

THE Institute of Physics and the Physical Society (which is the name for a single learned society) is embarking on an important change in its publications policy. The *Proceedings of the Physical Society* is to be split into three sections to be known as *Journal of Physics A*, *B* and *C* dealing respectively with general physics, atomic and molecular physics and solid state physics. The intention is that contributions to the three sections will appear six times a year in alternate months. The price of subscriptions to the new journals is to be £40 (for 18 issues a year) which is more than a proportionate increase on the cost of £24 for one subscription to 12 issues of the *Proceedings*. It will, however, be possible for non-members of the society to take out separate subscriptions to the three parts at a cost of £15 each.

By making this change, the British society is clearly following in the steps of the American Physical Society, which publishes *The Physical Review* and which split this into separate sections at the beginning of 1967. Only time will tell whether the obvious advantages of

these changes will outweigh the disadvantages. No doubt readers will appreciate the preselection of articles which separate publication makes possible. To set against this may be a slight increase of the time-lag before publication and the possibility that important articles will not reach as wide a readership as they deserve. Although it is known that the British society would like to see a wider integration of scientific journals on a European basis, the splitting of the journals is not directly related to developments of that kind.



The society has also in the past few weeks lost through retirement Dr A. C. Stickland, editor and deputy secretary. Dr Stickland joined the staff of the Physical Society twenty years ago. She has been appointed managing editor of the *Annals of the International Years of the Quiet Sun* under the auspices of the International Council of Scientific Unions.

Making the Most of Manpower

A POLICY conference on highly qualified manpower held in September 1966 is agreed to have raised more problems than it solved, but the report just published by the Organization for Economic Co-operation and Development (OECD), which ran the conference, includes an impressive list of recommendations.

Means of adapting educational systems to meet economic needs were discussed, together with the use of manpower by employers. In an age when science and technology are expanding quickly, education and training are vital and must be continued throughout the working life of each individual if accumulated knowledge is not to become obsolete—this is a familiar theme of OECD. The report lists five areas in which research must be done if the problems involved are to be pinned down. These cover improvement and standardization of statistics of personnel and the reasons why different people chose various academic subjects, training and jobs. Only by following individuals through various stages in their careers will the important influences be discovered.

The conference recommends to the member countries that they should develop systematic policies for the training and efficient employment of highly qualified manpower to meet their economic needs. The aim should be to provide education at school, university and

in the job which adds up to a coherent whole for each individual, as well as providing a complete information service on employment situations and possibilities so that the best use is made of qualified workers. National bodies would have to be set up to organize the required research and put results into effect. On an international level, OECD members were asked to continue the present work by referring back to the governments concerned. A further conference is proposed.

Foot and Mouth Disease

MORE than 21,000 animals have so far been slaughtered during the fastest moving epidemic of foot and mouth disease for nine years in Britain. The number slaughtered includes 7,614 cattle, 6,709 sheep and 7,335 pigs. There have been 87 separate outbreaks.

The causative agent is a spherical RNA virus, 22 millimicrons in diameter and designated sub-type O1. Of the seven immunological types so far characterized, foot and mouth disease in Britain is usually attributable to the three types O, A and C. There is no reason to believe that type O1 is particularly virulent, and it has indeed occurred in several European countries during the past few years. The most recent alarming outbreak of the disease in Northumberland and Southampton in 1966 was also caused by type O1.

The present outbreak was confirmed on October 25 at a farm near Oswestry in Shropshire, at a time when a large animal market was being held in the vicinity. There seems, however, to be no link between these cases and outbreaks in other counties. The veterinary service of the Ministry of Agriculture fears that there may well be an undisclosed source of infection in the area. It is possible, but unproved, that this epidemic is the result of infected meat imported from abroad. The virus can survive for days outside the animal body. It can be transmitted mechanically by direct contact from one animal to another, on cars or on the beaks and feathers of birds; transmission can also be airborne. As long as trade continues with infected countries, sporadic outbreaks in Britain will occur.

Another feature of the virus is its tendency to undergo antigenic variation. A vaccine incorporating the three types O, A and C is already being used on cattle in France, Belgium and Holland with encouraging results. The cost of such a vaccination scheme in Britain is said to be prohibitive—far greater than the cost of slaughter—and would, in any case, be impracticable. This is why there is a tendency to believe that charity begins abroad. Vaccine produced at the Animal Virus Research Institute, Pirbright, is exported to Turkey, Bulgaria and Greece. The institute also serves as the world reference laboratory for typing foot and mouth virus and for collecting information about epidemics.

How to Deal with Oil

“THE greatest peace-time operation ever mounted in the United Kingdom.” This is how the recent report compiled by L. R. Beynon, British Petroleum Company, describes the efforts to fight the oil pollution after the Torrey Canyon incident. Far from being a mere account of events, the report includes the action which was taken and its effectiveness, and possible