

NUCLEAR POWER

Any Day Now?

A PLEA for the reorganization of Britain's nuclear power industry was put to Mr Tom Boardman, Minister for Industry, last week by the Institution of Professional Civil Servants (IPCS).

The industry has been in a state of suspended animation for more than eighteen months while Mr Peter Vinter, a deputy secretary at the Department of Trade and Industry, has conducted a review of thermal reactors to help ministers decide what type of reactor Britain should plump for to fill the gap in the nuclear power programme between the second generation advanced gas cooled reactors and the breeder reactors which should start generating commercial quantities of power in the 1980s.

IPCS—which represents the majority of scientists and technicians in the nuclear power industry—told Mr Boardman that it is vital that a decision to go ahead with a British thermal reactor is taken without delay. The institution also told the minister that it would be fatal for the industry in the long run if Britain relied on American thermal reactors to fill the gap. The choice lies between three British reactor types, none of which is yet commercially proven and two of which—the steam generating heavy water reactor and the high temperature reactor—are not yet fully developed (the third type being the AGR), and two American light water reactors, both of which are well tried although neither is technically very advanced and neither of course has been built by the British consortia.

The institution also told Mr Boardman that the two nuclear design and construction consortia—British Nuclear Design and Construction and the Nuclear Power Group—should be merged but emphasized that British Nuclear Fuels Ltd, the state-owned fuels company, must be part of the new group if staff is to have confidence in the new consortia.

The IPCS also insists that the staff of the nuclear industry has as much right to be consulted about the impending reorganization of the industry as any other body and said that it would oppose any restructuring “worked out behind closed doors”.

The delegation reported after the meeting that its representations were well received and that Mr Boardman had promised to consult them “at the appropriate time”. He also informed them that the government fully supports the continuation of Britain's nuclear power industry.

Although the Vinter report has been in ministers' hands since early March,

no decisions have yet been made public. It is apparent that Mr Vinter's brief was far wider than was thought at first and it seems likely that the decision has been complicated by the need for Britain to think out the whole of its future energy policy, particularly with regard to the part coal is to play. A slight fall in the predicted electricity demand for 1977 to 1978 has allowed the government a certain amount of breathing space in which to make its decision, which has been promised “as soon as possible”.

ESRO

Base for Britain

THE four-year-old National Centre of Tribology at the United Kingdom Atomic Energy Authority's research establishment at Risley is to become ESRO's new European Space Tribology Laboratory (ESTL). The National Centre has won the £397,000 contract to build and operate the laboratory in the face of stiff competition from twelve other European organizations. When the programme is in full swing the contract, which will run for four years, will make up between 30 and 40 per cent of the centre's work.

To date the National Centre of Tribology, child of the now defunct Ministry of Technology, has worked with a combination of Atomic Energy Authority money and industrial contracts on the science of friction and lubrication. Its success has led to the award of the ESRO contract, the chief purpose of which is to establish the

long term reliability of rubbing surfaces in satellites.

To fulfil the contract, the laboratory will be equipped with six vacuum test chambers to test six slow speed solar paddle drive mechanisms for applications satellites for a seven year period. Eight smaller high vacuum chambers will be installed for the support programme, which is to include evaluation of solid and liquid lubricants for different types of space mechanisms. Work on de-spin mechanisms and momentum wheel bearing assemblies will also be undertaken. Assemblies tested will be full-scale prototypes of real satellites.

The test facilities will be particularly relevant to the development of the telecommunications satellite planned by ESRO. The first assemblies to be tested are all British products, but it is hoped that European products will be tested later and that European aerospace companies will place orders with the laboratory.

Industrial contracts already make up half the National Centre's work, and Dr Harold Hardy, Director of Reactor Fuels and Materials, UKAEA, said last week that the centre's experience of working to tight timetables and close financial control should stand the new European laboratory in good stead. The centre has won over 200 contracts worth almost £250,000 in its four years, and almost half its customers have come back a second time.

The contract has been awarded for an initial period of four years because ESRO's financial future after 1975 is uncertain.

COMMON MARKET

Aims for Energy

THE Commission of the European Communities has come out with the suggestion that the six member countries should aim to have 100,000 MW of nuclear generating capacity installed by 1985. The commission says that the quantity of electricity generated by nuclear means in the EEC (5,000 MW at present) should be increased to at least 12,000 MW by 1975 and to at least 45,000 MW by 1980. These targets are much lower than those set by the commission as recently as 1967 when it envisaged the installation of some 60,000 MW by 1980.

At 1970 prices, this new programme would cost about \$1,650 million a year in 1975, and more than \$2,200 million a year five years after that. The amount earmarked for new nuclear plants in 1972 is, by comparison, about \$1,000 million.

The capacity of electrical plant in use in some European countries at the end

of 1969 is shown in the Table. In the EEC, electricity accounts for about 6 per cent of the total energy consumed, compared with crude oil and its products (60 per cent), natural gas (11 per cent) and coal (23 per cent). Although

Capacity of Power Plant in Europe (1969)

	Conventional GW	Nuclear GW	Hydroelectric GW
Germany	40.0	0.8	4.6
France	17.8	1.6	14.5
Italy*	14.2	0.6	13.2
Netherlands	9.6	0.05	0
Belgium	6.2	0.01	0.06
Luxembourg	0.2	0	1.0
EEC total	88.0	3.1	33.4
Britain	51.3	4.0	2.2

* Italy also generates 0.4 GW by geothermal means.

the consumption of natural gas increased by about 27 per cent in 1971 (compared with 1970), the quantity of electricity used in the EEC fell by 2.5 per cent and the amount of coal consumed was down by nearly 7 per cent.