

exception that no longer will all the faculties be represented. Instead, six board members will be chosen by Congregation from the nine arts faculties, and six from the seven scientific faculties.

No Swan Song Yet

To read the annual report of the Atomic Energy Authority is to forget that the organization is going through a crisis. There is, it is true, a little retrospective nostalgia about the early days at Calder Hall, now ten years away, but the report barely mentions the reduction in expenditure at Culham, or Lord Penney's imminent retirement and the urgent need for a successor. The report gives the impression that the authority will go on for ever, occasionally annexing new fields of research, but basically unchanged. Perhaps it will, but to outsiders this is beginning to look increasingly unlikely.

It has been another year of success for the authority, although expenditure on nuclear research and development was held at the 1965-6 figure of £38.5 million. Capital expenditure in this area did increase, from £8.5 to £11 million, and research expenditure in non-nuclear fields was up to £772,000, most of it spent on desalination. The trading fund, which covers sale of isotopes, electricity and nuclear fuel services, made a profit of £3.3 million, £0.8 million up on last year, despite a 25 per cent reduction in the sale of fuel because of the reduced requirements of the Central Electricity Generating Board for initial charging for new magnox stations. The resources of the trading fund are to be used to pay for the re-activation of the Capenhurst fuel enrichment factory. The changes at Capenhurst, the report reveals, involve the complete reconstruction of the larger process units of the plant, and the enlarged factory will supply enriched uranium for the first three advanced gas cooled reactors, Dungeness B, Hinkley point B and Hunterston B.

The expenditure of the authority has declined this year, from £78.8 million to £71.5 million, and receipts, which include payments from the Ministry of Technology for military purposes, have increased by £4 million; as a result, the net expenditure is given as £17 million against £28 million last year. The development of reactor systems has of course continued, and the prototype fast reactor at Dounreay made progress. Contracts have now been placed for about half the work on the station, and the fuel specifications will be completed soon. An improved sub-assembly has been examined in some detail, and design detail of other materials has continued. The steam generating heavy water reactor at Winfrith was completed, and confirmed that this type of reactor can be built comparatively quickly, because all the principal components can be shop-fabricated.

Getting round GATT

MR WILSON'S latest device for cutting the British import bill has been constructed with considerable tactical skill. GATT, the General Agreement on Tariffs and Trade, frowns on most easy ways of aiding the balance of payments—import surcharges, or direct subsidies to home producers—and import restrictions invite retaliation from other countries. The British Government is now proposing to establish a new indus-

try in Britain by allowing aluminium companies to negotiate special prices for the electricity which they use to smelt aluminium. The smelters will pay the generating boards a sum equal to the capital cost of the power needed, and will then buy the electricity at near cost price. Because of the advantages of building big, and the fact that no smelting plant so far contemplated could use the entire output of a large station, it is likely that the aluminium companies would take a proportion of the output of a 1,200 MW nuclear station, perhaps as much as 300 MW. Electricity could then be supplied to the smelters at prices as low as 0.5d. a unit if they were prepared to build plants next door to power stations. Transmission costs would increase this slightly if the power station and smelting plant were not next door to each other.

The financial arrangements for the deal are confused. In addition to the low cost power, investment grants at the rate of 45 per cent will be given for the smelter, but the aluminium companies say that they will also need investment grants for their share of the capital cost of the power station if they are to compete with smelters in the USA, Labrador and Newfoundland, where power costs are around 0.25d. per unit. The Ministry of Power has different ideas; it confirmed this week that investment grants would be available only for the smelting plant and not for the power station.

But if aluminium is to have these advantages, why should not other industries also jump on the bandwagon? This has been the perfectly understandable response from a number of industries. The Prime Minister made clear that the favourable terms would only be available in development areas and when the investment could be seen to aid the balance of payments. There is another important proviso, however: the arrangements will not be available to existing companies for existing operations. Only if they are prepared to sanction large expansion in their activities, or a completely new industry, and offer savings to the balance of payments (£30 million is the estimate for the aluminium companies), would the arrangements be negotiable. In other words, existing businesses using large quantities of electricity will have to put up very convincing cases—and a huge investment, of the order of £1 million for every 10 MW of power—before they are likely to get anywhere.

The bid by Imperial Chemical Industries for cheap power for chlorine manufacture may be the best prospect outside the aluminium companies. Other possibilities include British Petroleum, with its new petrochemical interests, and possibly Courtaulds. The other processes which use electricity intensively—magnesium, sodium, potassium and calcium production, for instance, are probably not large enough to justify special arrangements. The British Steel Corporation produces more than 3 million metric tons of steel annually by the electric furnace method—almost 14 per cent of the total output—but since production is already in progress, and expanding, it is unlikely that the BSC could legitimately claim cheap power, even as a means of achieving its cherished aim of cutting steel prices. The first plan, put up by Rio Tinto Zinc, is still the simplest: RTZ would share a 1,200 MW station with the Atomic Energy Authority. The AEA share of the power would be used to run the uranium enrichment plant at Capenhurst, expanded—hopefully—to supply uranium to the Common Market countries, if Britain gets in.