BRITAIN

Changing nuclear fortunes

News last week transformed uncertainty surrounding the reprocessing of nuclear fuel in Britain into certainty. For the Dragon reactor, the reverse seemed to occur. Allan Piper and Roger Woodham report

AFTER several months' delay British Nuclear Fuels Ltd (BNFL) has obtained Government approval for plans to import and reprocess 6,000 tonnes of foreign nuclear fuel. The go-ahead clears the way for an early settlement of the contract for BNFL to handle up to 4,000 tonnes of material from Japan's new generation of light water reactors at its Windscale plant in Cumbria. But further delays are expected following French moves to capture part of the deal, which is worth as much as £600 millions over the decade following 1979.

Mr Con Allday, BNFL's managing director, has indicated that the head of the French reprocessing organisation Compagnie Generale des Matieres Nucleaires (CGMN) may accompany him to Japan later this month. The French intervention, made possible by their involvement in a tripartite reprocessing alliance with Britain and West Germany, could mean the loss to BNFL of up to half of the Japanese contract.

Final settlement of the Japanese deal, which has aroused some controversy in the UK, has been delayed by a Government investigation into the issue. Granting Government approval last week, the Energy Secretary, Mr Anthony Wedgwood Benn, said that the Government had "given full consideration to the safety and environmental implications of accepting more work of this kind, taking account particularly of the views which have been expressed in the recent extensive public discussion of the question".

It is now clear that all waste, whether reprocessed or not, will eventually return to Japan, and that the deal does not contravene the Non-Proliferation Treaty. In further contracts clients must accept a break clause freeing BNFL if residual waste cannot be treated for safe return in a glassified form.

BNFL have already expressed confidence that successful completion of the Japanese negotiations will bring in other orders, and Iran, Italy, Spain, Sweden and West Germany have been unofficially mentioned in this connection. To meet projections for oxide reprocessing by 1990 BNFL plan to invest £900 millions in two new reprocessing plants at Windscale.

Meanwhile, the moribund Dragon High Temperature Reactor Project continues to attract attention. Whatever the politicians in Brussels may decide about a data retrieval programme to get the most out of the Dragon project, a sum of about £700,000 has already been committed by other interested parties to this end. The German nuclear research centre, KFA Jülich, has chipped in £480,000 to make sure that all the information it needs for its work on high temperature reactors is wrung out of the project, and even the European Commission and the United States Energy Research and Development Administration (which eventually declined at the end of last year to help keep the project afloat) are contributing to a brief continuation of the programme concerning the effects of helium in the primary cooling circuit on the metals used there. This work is likely to continue to the end of the year and involves carrying on existing Dragon contracts with the Norwegian research centre CIIR and the Fiat company in Turin.

Apart from the £130,000 which it is making available for this venture, KFA Jülich is also providing £350,000 towards a seemly winding-up of the work at Dragon on fuel elements, in which it has a particular interest. This will involve what remains of the Dragon staff in post-irradiation experiments on the test fuel, some of which is still in the reactor.

The German research centre does, however, stand to recoup that £350,000 if a more comprehensive plan put up by the European Commission survives the Brussels obstacle course. The commission is suggesting a data retrieval programme costing £1.16 million, of which it would pick up the tab for 90%—the assumption being that some of the smaller countries that have participated in Dragon would stump up the remainder, and that the UK Atomic Energy Authority would contribute nothing.

The indications are, however, that the polarisation of political views in the Council of Ministers is such that even this—an expenditure of some 2% of the total amount of money spent on Dragon since its inception in 1959 to see the project decently buried—is by no means certain to be acceptable. And, in addition, some of the smaller countries associated with the project have simply given up in disgust. □

AUSTRALIA

Probing the conservative mind

Peter Pockley reports from Sydney on the latest developments affecting Australia's scientific community three months into the new administration

SHELTERED from the blaze of publicity surrounding the activities of the Federal politicians as they jockeyed for position before the opening of the new parliament, Australian scientists have been working behind the scenes to protect their interests. During January and February, the Prime Minister, Mr Malcolm Fraser, was busy putting the axe into a number of Labor-initiated inquiries, commissions and authorities. As the Canberra grapevine identified the descending blades, all manner of interested groups hurriedly sought ways of protecting their areas of interest and influence. Some lost their heads in the scramble, partly for want of comprehending the conservative mind now in power. The leaders of the scientific community, though, were by then well versed in political techniques, and their burst of frenetic activity had considerable, possibly long-lasting, effect.

ASTEC survives—just

In the eyes of the scientific lobbyists, the principal institution to defend was the fledgling Interim Australian Science and Technology Council

Chairing ASTEC review: Dr Louis Matheson

(ASTEC), which was under very real threat of abolition or absorption within the public service structure. To the

surprise of some, for as Prime Minister he was largely an unknown quantity, Mr Fraser proved accessible to the principal lobbyists, and he demonstrated a close, personal interest in science matters.

In the few months of its existence under Labor, ASTEC had begun to work well, but this could only be perceived on an internal basis. It had not had time to show results in the form of well-considered reports and advice to government. The dozen members had defined the major policy targets to examine in depth, and they set about doing so through a series of "Task Forces", each comprising members of ASTEC and co-opted outside experts.

Task Forces on Energy, Health Science, Social Science, Marine Science and Public Understanding of Science were established as going concerns by the time Mr Whitlam's government was defeated at the polls in December. Further Task Forces on Industrial Research and National Science Budget were formed but had not met. Some criticism had been levelled at ASTEC for allowing itself to take on too much in the way of tactical detail. Some of this detail was no fault of the members, though, since quick advice was sought on occasions by the then Labor Minister for Science and Consumer Affairs, Mr Clyde Cameron.

A broader strategic approach was favoured by these critics, but it is likely that this would have evolved naturally anyway. The existence of the criticism, however, assisted the anti-ASTEC arguments of the Department of Science following the election. Butterflies fluttered in the bellies of those scientists who saw in ASTEC their best, and only, hope for policy advice which is independent of the large government establishments dominating the Australian science scene.

At the end of January, Mr Fraser published his list of cuts and abbreviations in the inquiry industry. Although many of the cuts were largely cosmetic, they carried the useful public relations impression of a tough hand at the helm of economic management by first curtailing public expenditure. It was nonetheless important that ASTEC did not appear on the list. For those involved, a further fortnight of anxiety followed, caused by the continuing uncertainties of learning to deal with a new political regime. Then, Mr Fraser personally announced the formation of an Advisory Group to advise him —significantly him—"on the role of a continuing Science and Technology Council, its terms of reference and all other matters concerning its operation."

Dr Louis Matheson, the part-time Chairman appointed by Labor to ASTEC with expectation of full-time status, is chairing the review, again in a part-time capacity. Three of the four other members are "heavies" of the Academy of Science; the numbers are made up by a retired industrialist.

The very existence of the review, now working actively, and the nature of its membership point to a recommendation for the continuance of ASTEC, but whether, in the context of a public service-oriented government, the Labor ideal of statutory independence can be sustained is more doubtful.

Labor disarray

The traumatic period of adjustment to the status of an Opposition is still eating into the heart of the Labor Party, and it is not surprising that they have been silent on science policy matters. They seem to have been too busy tearing each other apart (notably trying to downgrade their re-elected leader, Mr Gough Whitlam) to probe the government's uncertainties on science policy. The Labor shadow cabinet is an elected body from the caucus of members of both Houses. Mr. Whitlam was saddled with some shadow ministers whom he would rather not have seen again, such as Mr Rex Connor, whom he had sacked as Minister for Minerals and Energy when in government, and Mr Clyde Cameron, whom he had demoted to the portfolio of Science and Consumer Affairs.

Mr Whitlam's one area of choice were the "portfolios" allocated to his front bench. Mr Connor became spokesman for science. So far, the shadow has not materialised into substance. □

COMECON

THE Interkosmos programme for joint Comecon research in space has just celebrated its tenth anniversary. The intention behind the programme was to carry out research into four major fields—space physics, meteorology, communications and space biology and medicine. According to its chairman, Academician B. N. Petrov, it was envisaged as a co-operative effort by all Comecon countries, whose scientists "jointly drew up a catalogue" of the most interesting problems in space research. The Soviet Union has, of course, always been responsible for providing the rockets and launch facilities to place the Interkosmos probes in orbit, and theoretically all the member countries should provide instrumentation. In fact, the Soviet participants provide the major share; out of five experiments in the recent Interkosmos-14, three were of Soviet provenance, one came from Czechoslovakia and one from Bulgaria. This imbalance is despite the fact that some member states are competent to provide experiments—Poland, Czechoslovakia, Rumania and Hungary were represented, as well as France and the USA, in the experiments carried by the biological satellite Kosmos-782.

● Aid to Mongolia from the developed members of Comecon was an issue discussed when the Comecon Committee on Scientific and Technical Cooperation met at Budapest in January. Mongolia joined Comecon in 1962, and is now seen as a potential source of mineral wealth: teams from the Soviet Union, Hungary, the GDR, Poland and Czechoslovakia have carried out exhaustive geological surveys during recent years, making important finds of coal, copper, tin, gold, phosphorites and kaolin; prospecting is also going forward for tungsten, fluorite and zinc. Over the last three years, the Standing Commission of Comecon has been working out an integrated economic plan for the development of these resources. In addition to assisting with these surveying projects, the European members of Comecon will, during the coming Five Year Plan, assist the development of Mongolian science and technology in a number of ways, including the establishment of laboratories for genetics, radioelectronics, and the analysis of fuels and lubricants.

● Cooperation in the agricultural sciences between the USSR and the other member countries is an important aspect of Comecon policy, and a recent agreement between Hungary and the Soviet Union envisages joint research into the procurement, storage and processing of cereals and the production of mixed fodder. Agricultural experts in the two countries, says the Soviet Minister of Procurement, are working on a number of identical problems. But one particular problem of Hungarian agriculture—the sugar beet harvest—seems to have arisen directly as a result of copying Soviet models.

Hungarian agriculture has embarked on an extensive programme of "chemicisation", and, according to Budapest radio, while the 1975 campaign to raise sugar beet production increased both the area under beet and the crop-density, the sugar yield of the beet was actually lower than the pre-campaign level.

Vera Rich