involving another tenfold increase, would involve uses in diesel motors and other common equipment, which could raise demand to a few hundred tonnes a year, Lesgars estimates.

The material is costly to produce, but economies of scale could reduce cost tenfold at the highest market levels. Lesgars predicts. With this in mind, SEP recently entered into cooperation with the German diesel engine manufacturers MAN to develop ceramics for diesel motors, with support from French and German government agencies.

SEP also plans to extend its international cooperation to work on ceramic turbines with companies in Norway, Sweden, Spain and Italy, if support is forthcoming from this week's ministerial meeting on Eureka at Hannover. Under Eureka, SEP has put forward a plan for a FF 200 million (£18 million) research programme on ceramic turbines. The company has also proposed the development of a commercial demonstration ceramic diesel engine (FF 100 million) and two varieties of ceramic turbine (FF 100 million each). SEP would be happy if half of the total FF 500 million were supported by governments or banks, Lesgars says. **Robert Walgate**

British nuclear research

Harwell goes half-private

In the UK Atomic Energy Authority (AEA), 1 April 1986 is known as Vesting Day. This is Civil-Service-speak for the day on which AEA ceases to be a division of a government department and becomes a "trading fund", equivalent in status to that of a limited company in which the British Treasury is the only shareholder. Among other things, the authority will thus be able to lend and borrow money on the open market. The Treasury will set financial targets, and there will be high hopes on the government side that the authority will be able to generate a surplus.

AEA's largest establishment, the research laboratory at Harwell in Oxfordshire, is also the best placed to profit from the new regime. A year ago, an encouraging 33 per cent of its research was supported by non-governmental contracts, but now the figure is nearly 60 per cent.

To continue at its current level of activity, Harwell needs funds totalling £100 million a year. From next April, there will no longer be a subvention from the De-

partment of Energy (DoE) to cover research carried out on behalf of government departments and other parts of AEA. Instead, separate contracts will be negotiated to cover each research programme — including fast reactor research, fusion research and work on thermal reactor and general safety research. It does not follow that the individual contracts will together compensate for the lost lump-sum contribution, the two being calculated in different ways, which is another stimulus for Harwell to look further afield for contracts.

Recent investment in the facilities at Harwell should help in the push for more outside contracts. A new radiochemical handling laboratory has been built, based on experience gained at Los Alamos in the United States and at Karlsruhe and Jülich in West Germany. The five high-integrity concrete cells can contain any combination of alpha, beta and gamma radiation. Each cell is ventilated separately so that a chemist measuring, say, a caesium isotope in one cell need not fear that someone else's experiment is generating just that activity at the other end of the containment area. Experiments are set up in large stainless steel boxes, or "cassettes", before being hoisted into the containment cell on cranes.

The new laboratory was opened last week by Sir Frederick Dainton, on his last day as chairman of the National Radiological Protection Board. The date was chosen to mark an anniversary of sorts — 40 years ago, on 29 October 1945, Prime Minister Clement Attlee announced in the House of Commons that Harwell, a disused airfield near Didcot, was to become Britain's first nuclear research laboratory.

Main customers for the new facilities will be British Nuclear Fuels Limited, the Central Electricity Generating Board, other AEA divisions and Amersham International, the radiochemicals company spun off from AEA several years ago. Although the company is now branching out into the increasingly popular field of non-radioactive assay kits, Amersham's isotope business is still large, and will be an important part of Harwell's plans, managed through Amersham's own offices on the Harwell site.

While Harwell can contemplate a future of at least the same level of activity as now — provided that in the long term it is able to adapt to the changing needs of industry — some other AEA divisions have fared less well in recent government reviews. Spending on fusion research at the Culham laboratory, for instance, is to be reduced by £1 million, £2 million and £3 million in three successive financial years. However, support for the Joint European Torus (JET), also sited at Culham, is not affected. **Charles Wenz**

New Soviet space agency is formed

THE Soviet Union has established a new space agency to make use of space research results in the national economy. The existence of the Main Administration for the Creation and Use of Space Technology for the National Economy and Scientific Research (*Glavkosmos*) was revealed last month in an unremarkable middle-page interview in *Izvestiya* with the new agency's head, A.I. Dunaev. This reticence is all the more remarkable because, when the Soviet press daily castigates President Reagan's strategic defense plans, *Glavkosmos* might have been used as evidence of the more peaceful Soviet approach to space.

Reticence, however, seems to be the keynote of *Glavkosmos*. The interview does not reveal when it was established, only that it "has been set up and has started working". Dunaev, however, refers to all its activities in the future tense, suggesting that it is a very recent innovation. Dunaev's own identity, too, remains obscure. Nothing is said of his career or academic qualifications, his background or even his given name and patronymic.

Even the purpose of *Glavkosmos* itself remains obscure. Dunaev notes the benefits of space research to the Soviet economy; long-distance communications (including the simultaneous printing of Moscow newspapers in Siberia and the Far East), meteorology, land-resources survey, navigation and the international "Kosmos-Sarsat" air-sea rescue system as well as the production of new superpure and biologically active materials aboard manned spacecraft. But his list reads like a

summary of the Soviet presentation at the United Nations conference on the peaceful uses of space (UNISPACE-82) three years ago.

Within the Soviet Union, the main purpose of *Glavkosmos* seems to be administrative. A number of ministries and government departments, Dunaev said, are concerned as are scientific organizations.

A special coordinating body is now needed, and *Glavkosmos* will have charge of the planning and space projects for the collection and dissemination of space information for practical purposes, and will also be responsible for Soviet participation in international cooperation programmes, both the Comecon "Interkosmos" project, and broader programmes such as the current *Veha* (Venus/Halley) probes in which nine countries are cooperating.

Whether *Glavkosmos* will be responsible for Soviet manned programmes is unclear. Dunaev's reference to future long-term stations is part of a general outline of space plans, not of the specific functions of his agency. Also unclear is the relationship of *Glavkosmos* with the Space Research Institute of the Soviet Academy of Sciences, which so far has acted as coordinator for the transmission of space data to the production sector.

Glavkosmos will not, it appears, be responsible for research planning, and its creation seems merely to interpose one more body between research and production. But it is precisely here that endemic delays in the transmission of results occur.

Vera Rich