European research

Joint centres in eye of storm

A PROMISED reform of the European Commission's big spenders in research, the Joint Research Centres at Ispra in Italy, Karlsruhe in Germany, Petten in the Netherlands and Geel in Belgium, is raising hackles in European standards institutions, because it may threaten their work in standards and measurements. But according to the new director of the research centres, Jean-Pierre Contzen, "we don't intend to tread on any flowerbeds".

The Commission is nevertheless treading a narrow path between governments, which wish to see better value for money from the 200 million ECU (£150 million) they spend each year on the research centres (largely a hangover from the boom years of nuclear energy research), and the national laboratories nervous of a challenge to their roles. Advisers have identified the setting of Europe-wide standards in new composite aeronautical materials, for example, as a logical job for the research centres. But such work could mean competition for national institutions wishing to move away from their classical task of defining the units of physical measurement such as the metre and the second and towards a more secure role involving links with industry.

Contzen, however, is assuring national laboratories that he aims to find a place for the research centres that will complement national work. Work at the centres will be highly applied. They could be involved in the strong political effort to reduce trade barriers in Europe by establishing themselves as an objective, impartial European centre of reference in squabbles over incompatible technical regulations (over consumer electronics connections and safety requirements, for example). The centres could also take on the research necessary for setting common standards in new industrial processes and technologies, particularly in matters relating to European environmental regulations, Contzen says.

The expertise of the joint research centre staff is at present mostly in nuclear matters. According to Contzen, Karlsruhe excels in the study of actinides, Geel in nuclear measurement and Ispra in nuclear safety and the assessment of the risks of various forms of nuclear waste disposal. But Petten has done research in high temperature materials since 1976, and is now working on ceramic magnets. Ispra also has a background in structural mechanics; and was chosen by the US National Aeronautics and Space Administration and the European Space Agency as a remote sensing centre. Here Ispra's interests are in developing applications in agriculture, oceanography and in tackling the problems of poorer countries. Ispra also runs

the European solar testing installation for investigating new solar energy technologies, makes engineering and safety studies for nuclear fusion and gives support to the planning for the demonstration-scale Next European Torus (NET) that should follow the Joint European Torus (JET). But Ispra's environmental work on lead in blood and toxic chemicals has been "more controversial", Contzen says.

It is this team that Contzen now hopes to turn more towards the interests of member states. He is awaiting the advice

of a panel of European industrialists on improving the research centres' value to industry. This advice, however, is not due before the December meeting of the European Council of Ministers which should fix the outlines of Commission research spending to 1991. The Commission has allowed for a 5 per cent fall in research centres' spending next year, and with the research centres' background in nuclear safety has probably been protected from pressure for greater reductions by the event at Chernobyl. But uncertainty about the research centres' exact programme will remain, and with it the concerns of the national laboratories that still feel themselves threatened.

Robert Walgate

Japanese astronomy

Projects wait on organization

Tokyo

JAPAN'S Ministry of Education, Science and Culture has requested a preparatory budget from the Ministry of Finance to reorganize the Tokyo Astronomical Observatory of the University of Tokyo as an independent national institute. The plan would involve a merger with at least one other astronomical institute, the International Observatory in Mizusawa in northern Honshu, and is closely linked to several new big projects proposed by Japan's astronomers.

Tokyo Astronomical Observatory was founded in 1878 and moved to its present site in Mitaka in the suburbs of Tokyo in 1924. It now operates six other observatories around the country, including a 188-cm reflecting telescope at Okayama, a 105-cm Schmidt telescope at Kiso and the 45-m high-frequency radio telescope at Nobeyama. The International Latitude Observatory at Mizusawa goes back to 1899, and is concerned primarily with geodetic observations of latitude, longitude and Earth rotation.

Moves by the government to reorganize Tokyo Astronomical Observatory first emerged publicly with the observatory's proposal to build a giant 7.5-m optical and infrared telescope at Mauna Kea in Hawaii (*Nature* 311, 5; 1984 and p.515, this issue). The project was simply too big and too international for a mere branch of Tokyo University to run.

Although the national committee of astronomy of the Science Council of Japan last year recommended the building of the Hawaii telescope and a plot of land has already been reserved from the University of Hawaii, the Ministry of Education, Science and Culture has yet to be persuaded to submit the telescope proposal to the Ministry of Finance. The option on the land in Hawaii runs out in 1988, by which time Tokyo Astronomical Observatory should be a national institute, if all goes according to plan.

A couple of other big projects lie behind the reorganization. Geodetic astronomers, including those at Mizusawa, wish to study the rotational motion of the Earth by building a very long baseline interferometry network including satellites. And it is hoped that the same net can be used by radioastronomers for their own purposes.

In turn, solar radioastronomers at Nobeyama and the Research Institute of Atmospheric at Nagoya University have proposed building a giant radio-heliograph with 200 dishes. Although the Research Institute of Atmospheric is not yet officially involved in the reorganization plan (the institute already has a restructuring programme), its solar radio group is likely to join the new central institute to be organized around Tokyo Astronomical Observatory.

Two major issues have yet to be resolved. First, Tokyo University, which has its own astronomy department separate from the observatory, is not prepared to part completely with the observatory. Two or three sections and one telescope (possibly the 188-cm reflector at Okayama) will remain within the university. But which sections will remain has yet to be decided. A similar situation arose during the formation of the Institute of Space and Astronomical Sciences (ISAS). When it separated from Tokyo University, some personnel remained behind.

Second, the new independent institute will have to find a new source of graduate students. The Ministry of Education, Science and Culture is planning to establish a new graduate university to supply the needs of national research institutes, such as the Institute of High Energy Physics at Tsukuba. But Tokyo Astronomical Observatory would prefer to continue to draw students from Tokyo University in the same way as is done at ISAS, and this would fit in with the plan to retain some sections of the observatory within the university.

David Swinbanks