

# CORAL, THEORETICAL PHYSICS AND RESEARCH

The relationship between the three subjects given above is that they were among those considered by the Board of Governors during their week-long deliberations in February. CORAL-1 is the name of an experimental fast reactor in Spain, one of several research facilities for which nuclear fuel was made available. Theoretical physics, and in particular the future of the International Centre at Trieste, received much consideration. Research was discussed as it is affected by the IAEA technical assistance programme, and by collaborative agreements.

CORAL-1 is the first reactor of its type with which the Agency has been connected. It will be used for important research work for acquiring nuclear data and for development of reactors which use little or no moderating material (graphite or heavy water) to slow down atomic particles which cause fission. It uses highly enriched uranium, in which the amount of the fissile isotope uranium-235 is increased from the natural proportion of 0.07 per cent up to 93.5 per cent. The quantity to be provided is 25 kg, the Spanish Government having accepted Agency safeguards to ensure it is used for peaceful purposes.

Highly enriched uranium is also being provided for a pool research reactor at the University of Teheran, Iran (5585 grammes enriched to 93 per cent); and for the PINSTECH research reactor at Islamabad, Pakistan (4445 grammes 90 per cent). In each case the safeguards controls are applied by agreement, but they are not necessary for a sub-critical assembly in Mexico. For this 1400 fuel elements containing approximately 2530 kg of natural uranium are to be provided, with three neutron sources of plutonium and beryllium.

Two agreements for collaborative research have been so fruitful that the Board agreed to extend them. One, known as the NPY agreement, is between the Agency and the Governments of Norway, Poland and Yugoslavia. It began in 1964 with the aim of improving knowledge of reactor physics both by theoretical and experimental work and besides using experimental facilities in each of the countries has benefitted scientists and technicians from a number of Member States through training and fellowship arrangements. The original agreement was for three years, but it will now continue for another three years.

The second joint programme of research in reactor physics discussed, between the Agency and the Government of Norway, started in 1961, has

already had one extension of three years and will now go on for an extra year. It makes use of the NORA test reactor at Kjeller, Norway and in addition to having provided useful data for the development of power reactors has enabled many Member States to gain experience. To enable the work to continue the Norwegian Government has been authorized to retain enriched uranium leased earlier by arrangement with the USA, which is also the source of all the previous agreements mentioned.

Both the General Conference and the Board of Governors have, because of the achievements of the Trieste International Centre for Theoretical Physics, devoted attention to its work and to arrangements necessary for its future. At this meeting the Board authorized the Director General to conduct negotiations on behalf of the Agency with the Italian Government for a new agreement covering the academic years up to mid-1974. The Centre opened in the autumn of 1964 and the present agreement expires at the end of the academic year 1967-68. It is envisaged that the larger proportion of the funds necessary will continue to be provided by the Italian Government and the Agency. It is hoped that from other sources, including UNESCO, it will be possible to achieve a desired annual budget of about \$500 000.

Technical assistance for 60 new projects as well as for the continuation of 62 others, in a total of 48 countries, was approved. The cost of sending experts and where necessary providing equipment was estimated at \$975 000 to the Agency's budget. There is also a considerable amount of work being carried out on behalf of the United Nations Development Programme, the estimated allocation for which is \$2 226 075 for the next two years.

The Board, of which Wilhelm Billig (Poland) is Chairman, will meet again in June.