

# On-going Projects and affairs of the Atomic Energy Authority

by W. A. Amarasiri, Officer-in-Charge, Atomic Energy Authority

Nuclear techniques have become and continue to be a promising tool for scientific research and development. Its applications cover areas such as Agriculture, Medicine, Industry, Hydrology, Power Generation etc. The Atomic Energy Authority of Sri Lanka is obliged with the introduction, promotion and encouragement of the use of nuclear techniques in research and development of this country.

Sri Lanka is one of the early members of the International Atomic Energy Agency, IAEA, the specialised organisation of the United Nations on the peaceful applications of the atomic energy. Various establishments in this country receive technical assistance from the IAEA through its Research Contract Programme and Regular Programme annually. The assistance given is in the form of expert services and equipment. In addition the IAEA also grants fellowships, scientific visits and training courses to local personnel for training in specific areas in nuclear science. The Atomic Energy Authority functions to be the co-ordinator of all services rendered to Sri Lanka by the IAEA. Sri Lanka recently became a party to the regional co-operative agreement for research, development and training related to nuclear science and technology. This has provided the opportunity for local institutions for the entering into co-ordinated research programmes, exchange of informations and scientists, the use of facilities available in the more advanced countries in the region, etc.

The Atomic Energy Authority has set up committees in Agriculture, Medicine, Hydrology and Energy with representatives from relevant research establishments, university campuses, government departments and corporations and from planning authorities. The committees function in an advisory capacity to the Authority also assisting in formulating and implementing projects in the relevant areas.

The Agriculture Committee of the Authority has formulated for early implementation an internal co-ordinated research programme in (i) Fertilizer Efficiency studies in all crop types and (ii) Soil Moisture Studies. Almost all the agricultural research institutes have proposed projects for implementation under this programme. The necessary equipment has been made available by the IAEA and these have been centralized under the Authority for use by all institutions. Expert services for 6 months are also being made available by the Agency in May this year. All work connected with this programme will be co-ordinated by the Authority. The Hydrology Committee of the Authority identified four areas in which nuclear techniques would be profitably applied viz. (a) Sedimentology (b) Direct Recharge Measurements (c) Seepage and (d) Underground Water Studies. A project request on sedimentology has already been made to the Planning Ministry for inclusion in the UNDP Country Programme. The request made to the IAEA for technical assistance to implement the projects on Direct Recharge Measurements and Seepage Studies were approved by the Agency and a part of the equipment has already been delivered. On arrival of the expert assigned for these two projects and the delivery of the remaining equipment, the projects will be initiated in June. Studies on underground water has been carried out using artificial tritium and stable isotopes and Carbon-14 in the Vanathavillu area. These investigations are been extended to Mannar and Jaffna areas.

The Energy Committee of the Authority submitted its interim report to the Authority with following recommendations:

1. Even if hydro-power is marginally more expensive, its development should be given preference over the exploitation of other resources.

*(Continued on page 13)*

(Continued from page 6)

2. No further oil fired electricity generating plants need be installed. Hydro-power plants should be commissioned in rapid succession in order to avoid power and energy shortages.
3. It is envisaged that the first nuclear power plant would have a power of around 100 MW(e) and would be necessary to be in operation in about 1990. The target would have to be revised if adequate quantities of gas resources are found available for power generation purposes.
4. Steps to be taken to obtain a research reactor in two to three years time. The IAEA to provide whatever possible assistance.
5. A comprehensive survey of the Uranium and Thorium resources available be undertaken with IAEA assistance in order to estimate the quantities available.
6. To keep close track of the developments in new techniques in power generation.

This report was submitted to the Ministry of Industries and Scientific Affairs with the recommendation for the formulation of a National Energy Policy for Sri Lanka by the Government. On request by the Minister, the Energy Committee continues its settings to draw up guidelines for such an Energy Policy. After a survey of the present status of Nuclear Medicine in Sri Lanka the Medicine Committee submitted a report for consideration

by the Authority and to make necessary recommendations go the Ministry of Health. The main recommendations include:

- (i) The setting up of a nuclear medicine unit in Colombo for diagnostic investigations and research.
- (ii) The setting up of a centralized radiation protection service under the Atomic Energy Authority.
- (iii) Provision of adequate foreign exchange for institutions to purchase their isotopes and spares requirements.

Preliminary action has already been taken in regard to all above by the Authority.

By statute the Authority is obliged to formulate, implement Atomic Energy Regulations suitable for Sri Lanka. Regulations for import export, production, treatment, manufacture, use, handling etc. of radioactive material and irradiation apparatus, have been formulated by the Atomic Energy Authority. While the import and export aspect of the Regulations was gazetted by the Ministry of Foreign and Internal Trade the rest of the Regulations was gazetted by the Ministry of Industries and Scientific Affairs. The function of the Atomic Energy Authority includes the issue of appropriate licenses to all users of radioisotopes and radiation in both private and public sector and to make inspection and surveys at premises where these are used.