USA's gift aids radiation measurement

On 8 December 1969, the anniversary of President Eisenhower's speech which led to the foundation of the Agency, the United States of America handed over a $25 000 gift which will assist considerably the promotion of world-wide standardization in the measurement of radiation.

Ambassador Henry D. Smyth, USA Member of the Board of Governors, hands over the cobalt unit given by his country to the Agency, to Dr. Sigvard Eklund, Director General.

Ambassador H.D. Smyth, the USA Member of the Board of Governors, performed the ceremony in the basement laboratory of the Agency's headquarters in Vienna. The gift he formally presented was a cobalt unit containing a 3 000 curie source of radioactive cobalt, complete with all operating equipment including remote controls. Also present were Sir Philip Baxter (Australia), Chairman of the Board of Governors, Dr. Sigvard Eklund, Director General, senior members of the IAEA staff and Dr. L.H. Lanzl, a former member of the Division of Life Sciences, now Professor of Radiation Physics at the University of Chicago, whose efforts were largely instrumental in arranging the gift.

Ambassador Smyth said he was always happy to establish connections with any of the Agency's many activities and especially to be able to represent the Government of his country in expressing pleasure at making a gift which would promote the important aim of establishing standards. This was one of the main objectives of the Agency, particularly when related to the standardization of the dosimeters used for measuring radiation. There were all kinds of such instrument used in many types of work, including radiation therapy, and their calibration was essential both for effectiveness and safety. The installation of the unit would avoid considerable loss of time, improve opportunities for training personnel and assist the work of experts in many countries.

In accepting the gift on behalf of the Agency, Dr. Eklund said that the IAEA had been involved in the field of high energy radiation for a long time, and Mr. Johann Nagl of the Division of Research and Laboratories had devoted considerable effort to working out an absolute dosimeter based on calorimetry. The Agency had also over a period of years issued atlases giving guidance on the radiation fields in the human body from different sources of radiation. The laboratory work of standardizing measuring instruments would now be greatly helped, resulting in improved assistance to Member States and to better collaborative work with the World Health Organization. Provision of the most modern equipment would also be of great service for training purposes. Dr. Eklund asked Ambassador Smyth to convey the Agency's deep gratitude to the Government of the USA.

The following notes from members of the Dosimetry Section and laboratory give an explanation of the significance of the gift:

What is the purpose of having such a unit and laboratory facility? Several panels have made recommendations to the effect that the Agency should provide training in dosimetry as well as some calibration services. This was expressed particularly strongly at the panel on Dosimetric Requirements of Radiotherapy Centres in Caracas, 1968, at which the establishment of regional secondary reference laboratories was recommended. Such laboratories can only be operated meaningfully if they have appropriately trained personnel and can rely on a primary reference centre. The main functions of the now well-equipped Agency dosimetry laboratory will be to serve as a working model for these secondary reference laboratories, and to provide training facilities.

Another reason for operating such a facility has been an increasing demand for the TLD (thermoluminescence dosimetry) postal intercomparison service. Until now the Agency has depended entirely on

the helpful co-operation of several national standard laboratories to obtain for each batch of dosimeters shipped (to over 50 countries) a properly calibrated reference. With the availability of the source at headquarters this problem is eliminated and references compatible with national laboratory standards can be prepared much more frequently — if necessary instantly. Thus an important service to Member States can be considerably improved.

The desirability and urgency for dosimetry work in these areas as well as many other aspects were emphasized during the meeting with representatives of the World Health Organization in May 1969, at which it was concluded that the Agency dosimetry laboratory would be set up as a model centre for the use of both organizations and as an educational centre. It was further considered that the Agency should continue actively to foster the development of secondary standards. Now the Agency is in a much better position to fulfill the terms of this agreement.

There are other ways in which the unit will play an important role. Besides training of personnel, such services as standardization and intercomparisons with Fricke and glass dosimeters are considerably facilitated. This is particularly true since the Agency is in a uniqu position of having developed and possessing a calorimeter which allows calibration of many dosimeters in absolute physical units. Testing and evaluating of new dosimetry instruments and systems are also included in the future programme.

Sometimes these instruments are not suitable for special tasks due to such factors as unusual environmental conditions. Nevertheless at times they can be adapted with minor modifications.

Furthermore it has happened that Agency's experts in dosimetry find themselves without properly checked or even faulty dosimeters on arrival at their destination. It now becomes possible to have the instruments ready and checked prior to journeys ready for the experts to carry them. This avoids delays, customs and transport problems, as well as other mishaps which can occur to such sensitive equipment.

Of course the Agency does not intend to compete either with the accuracy and competency of national standard laboratories or with their legal responsibilities. On the contrary it hopes to unburden some of these laboratories from a task which they do not consider as their primary responsibility and which they cannot always carry out due to the fact that the majority are national and not international institutions. One of these tasks is to support institutes of Member States if they wish to improve their dosimetry.