

Country Report of Viet Nam

by

H.E. Dr. Hoang Van Phong

Minister

Ministry of Science and Technology (MOST)

H.E. Ministers and Heads of the Delegations,

Distinguished Guests,

Ladies and Gentlemen,

It is the fact that the peaceful uses of nuclear energy have brought about significant benefits to mankind. Given the actual situation of Vietnam in the last years, although the level of economic, scientific and technological development remains modest, nuclear science and technique has been studied and applied widely and effectively in different fields, making substantial contributions to social and economic development of the country and improvement of the people's living standard. We acknowledge and highly appreciate the activities of the Forum and the gained achievements in the application of nuclear science and technique in Vietnam.

Da Lat nuclear research reactor has been put into safe operation and effective utilization over the last 20 years since its restoration and enlargement in 1984. At the present time, in addition to research and training purposes, more than 20 radioisotopes and radiopharmaceuticals are annually produced from the reactor in service of the diagnosis and treatment of hundred thousands of patients. Moreover, many overseas experts have been received for professional training, practice and exchange at the Nuclear Research Institute, including scientists from FNCA member states.

In agriculture, nuclear techniques have been studied and applied effectively to the creation of many plant varieties, the production of plant growth promoters, microbio-fertilizers, the management of soil and water, and the study of livestock pathology. Some valuable varieties of crops have been created by nuclear techniques, especially rice varieties with high productivity, good quality and adaptability to different ecological environments. Such achievements in agriculture have contributed to the success of the national program on food security, rice export, hungry elimination and poverty reduction.

Nuclear techniques have also been applied extensively to some industrial sectors, construction and transportation works, especially in the recent investigations with a

view to enhancing the efficiency of oil and gas prospecting and exploitation. In 2004, the Ministry of Science and Technology (MOST) has invested and constructed a modern NDT center at VAEC to strengthen NDT research, training and application capability in Vietnam.

In health care, a nationwide network of more than 20 nuclear medicine departments and units has been formed and effectively served public health care. Advanced techniques for cancer treatment have also been introduced into Vietnam, for example radiotherapy by accelerator. With the aim of promoting hi-tech applications in health care, the Vietnamese Government has approved a plan to build 2 PET-Cyclotron centers, one in Hanoi (PET-Cyclotron 30MeV Center) and another one in Ho Chi Minh City (PET-Cyclotron 18MeV Center).

In relation to the application of radiation technology, following the success of Irradiation Center in Ho Chi Minh City with high economic efficiency, two new irradiation centers using electron-beam accelerator technology and Co-60 radiation source have been built in the south of Vietnam. In 2004, MOST has invested a significant budget for the project on the upgrading of Hanoi Irradiation Center with the aim of promoting research, development and application of radiation technology in the north of Vietnam.

In hydrogeological and environmental studies, isotopic techniques have been applied to manage and judiciously exploit ground water in Hanoi, Ho Chi Minh City, and Southern delta provinces. To facilitate these studies, MOST has equipped VAEC with a modern mass spectrometer which, according to the IAEA experts' assessment, can be considered as the most modern equipment in the region. Vietnam is willing to cooperate with other countries in this field. Over the last years, environmental studies using nuclear techniques have gained a great deal of achievements in service of radioactive environment monitoring, identification and evaluation of pollution sources, and proposal of waste treatment technologies.

The management of radioactive wastes and spent radioactive sources has been stepwise consolidated in accordance with international standards. At present, statistical work of spent radioactive sources has been completed. Radioactive waste storage facilities have also been reinforced and upgraded.

Nuclear human resource development is regarded as one of the most important factors and given an advance priority in the research, development and application of atomic energy in Vietnam. A national long-term plan on human resource training for atomic energy development program is being formulated under the guideline of

MOST. Cooperation among nuclear energy research, development, application and training establishments has been strengthened and promoted. Multilateral international co-operation under the framework of IAEA, RCA and FNCA, as well as bilateral co-operation, especially with Japan, Korea, have opened up good opportunities for the training of experts on the application of nuclear techniques to socio-economic sectors, radiation protection and nuclear safety, formulation of nuclear law, and radioactive environment monitoring. Da Lat and Hanoi-based training centers at VAIEC have come into full play in the training of nuclear experts for the country. During the last year, hundreds of Vietnamese experts were nominated to participate in overseas nuclear related short-term and long-term training courses under the programs of international cooperation.

Safety culture and public information have had many significant activities. In the last year, Da Lat nuclear research reactor and several nuclear facilities were licensed by MOST. Through the review and evaluation of 20 years of the safe operation of Da Lat nuclear reactor, precious experience and lessons learned have been drawn to improve safety culture at nuclear facilities in Vietnam. In order to serve future nuclear power development in Vietnam, an International Exhibition on Nuclear Power Technology was held in Hanoi, May 2004 with the participation of France, Japan, Korea, Russia, India and IAFA. More than 6000 visitors came to visit the Exhibition, among them about 200 are delegates of the National Assembly. This is an important activity to gain public awareness, acceptance and support to the study program for the introduction of nuclear power into Vietnam.

In order to formulate a national long-term atomic energy development program, Vietnam Atomic Energy Development Strategy up to 2020 and Report on Pre-Feasibility Study for the First Nuclear Power Plant Project in Vietnam are under completion by MOST and the Ministry of Industry (MI) to submit to the Government. The project for the formulation of nuclear law is also being conducted by MOST, concerned ministries and branches, which is planned to complete and submit to the National Assembly for scrutiny and approval in 2007.

Ladies and Gentlemen,

Aware of the important role and necessity of nuclear energy development and use, the Vietnamese Government has determined that research, development and use of atomic energy for peaceful purposes is one of eight focal directions in *Vietnam's Science and Technology Development Strategy from now up to 2010*.

In the light of that strategy, together with the enhancement of the state

management on atomic energy, radiation protection and nuclear safety, in the last year, the Vietnamese Government had favorable policies and invested remarkably to strengthen the capability of atomic energy R&D institutions, foster the application of nuclear techniques to social and economic sectors, public health care and environment protection.

In the present global context, it is extremely important that international cooperation should be intensified to ensure atomic energy is used for peaceful purposes only. Hence, Vietnam highly appreciates international cooperation on atomic energy, considering it as an important resource for atomic energy development in Vietnam. It is a great pleasure for MOST to note that together with Vietnam's prestige and status in the world over the last years have been enhanced, international co-operation on atomic energy between Vietnam and countries, international and regional nuclear organizations, including FNCA, has been further developed.

Awareness of the role and contribution of FNCA to nuclear cooperation and sustainable development of the region, Vietnam undertakes to actively participate in and provide the necessary resources to ENCA activities.

In conclusion, once again, I wish all the esteemed guests and delegates the best of health, every success and happiness in life, and the Meeting great success.

Thank you very much.