(Agenda 14 a)

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FNCA Activities in FY 2002

Sueo Machi, FNCA Coordinator of Japan, and
Senior Managing Director, Japan Atomic Industrial Forum, Inc.(JAIF)

1. Highlights of FNCA Project Activities

Details were reported by project leaders at the separate session.

(1) Neutron Activation Analysis (NAA) for Monitoring Airborne Particulates

The particulates samples were collected using common filters provided by Japan, in urban and rural areas and analyzed. The monitoring will be continued and the report will be published in 2003. "Ko- method", which greatly improves efficiency of NAA to be affordable in measurement of large number of environmental samples is being developed. The Chinese and Vietnamese experts contributed to the improvement of Ko-method. The linkage with environmental policy sector should be strengthened.

(2) Tc-99m Generator Production

New projects on "Tc-99m Generator Production" using Mo-99 produced by (n, **)** reaction and Poly-Zirconium Compound (PZC) adsorbent have remarkable progress in design of production system in Japan and Indonesia. The demonstration of manual production was made in BATAN at the workshop in 2003. A larger scale automatic plant will be installed in BATAN, Indonesia and tested using radioactive Mo-99 before and during the next FNCA Workshop in December 2003.
BATAN-Kaken Joint Patent on PZC based Tc-99m generator and Mo-99 loading machine has been already applied and accepted by authorities of Japan (Oct. 31, 2002) and Indonesia (Feb. 24, 2003).

(3) Mutation Breeding

The project on "Mutation Breeding" has started a new specific programme in China, Indonesia, the Philippines and Vietnam to develop new varieties of the drought-resistant sorghum and soybean in 2002, and will start the programme of insect-resistant orchid in 2003 aiming socio-economic impacts.

(4) Biofertilizer

The first Worksop of the project on "Biofertilizer" has formulated the work plan in 2002 including the field demonstration in participating countries to show impacts. The N-15 tracer technique and radiation sterilization will be used for the selection of suitable microorganism and the preparation of the carrier, respectively.

(5) Radiation Oncology

This project has achieved remarkable progress in 210 clinical tests using the advanced protocol in FNCA participating countries. Survival rate for the stage III-B patients at 5 years after treatment is 54% and the local control rate of tumor is 82%, which show remarkable improvement. The guidebook on the treatment protocol has been published in 2002 for therapists. This protocol was used at the RCA/IAEA Training Workshop on radiation oncology in Japan. In conjunction with the FNCA Workshop, the open lecture on "Radiation Therapy" was presented for 150 audiences.

(6) Public Information (PI) for Nuclear Energy

In this project the joint survey on "Radiation" were carried out for 1,100 high school students in each of the eight participating countries. The results are currently being analyzed to use for improving strategy of PI. Three speakers contributed to the ICN'02 in Malaysia under the Speakers Bureau programme.

(7) Radioactive Waste Management (RWM)

The Task Group for the sub-project on "Spent Radiation Source

Management"(SRSM) had useful visits to relevant facilities to have fruitful discussion in Indonesia and Korea in 2002. The consolidated report on RWM has been completed in February 2003, which contains useful updated information. It was agreed that the sub-project on "TENORM*" replace "SRSM".

* Technologically Enhanced, Naturally Occurring Radioactive Materials

(8) Nuclear Safety Culture(NSC)

The self-assessment of research reactors has been conducted in each FNCA country in order to identify the areas for further improvement in fostering safety culture and management. The first peer review of safety culture for research reactor was carried out successfully in Vietnam on the research reactor of Dalat Nuclear Research Institute in January 2003. Some useful comments and information were presented.

(9) Human Resources Development (HRD)

The development of the common training materials in radiation protection area and introduction of e-learning system, are being progressed. The survey of basic data on HRD such as, currently available human resources and the demand to meet national programme are being carried out in FNCA countries, which should be useful to formulate a national strategy of HRD and the strategy of FNCA's HRD project. The matter of regional networking for research, high education and training was raised at the Workshop and the 3rd FNCA meeting.

(10) Application of Accelerators

For this new project, the work plan has been formulated at the 1st Workshop for liquid, solid (powder and thin film) and gaseous targets. At the 2nd Workshop demonstration for liquid system was conducted by the JAERI in December 2002. Cost analysis of the system is the important element of the project.

2. The 3rd FNCA Meeting, October 30-31, 2002, Seoul, Republic of Korea

The meeting was held in Seoul from 30 to 31 October, 2002 co-hosted

by the Atomic Energy Commission of Japan and the Ministry of Science and Technology of Korea with 41 participants including 9 ministerial level representatives.

The official Summary Report of the Meeting had been published. The Chairperson's Summary of the 3rd FNCA and the Summary Report of the SOM are attached (Attachment 1).

Major agenda items of SOM are: (1) country reports, (2) sustainable development and nuclear energy, (3) strategy for human resource development, and (4) management and operation of FNCA activities.

These items will be further discussed at the session 4 and 5.

Attachment 1

Chairperson's Summary of the Third Meeting of the Forum for Nuclear Cooperation in Asia

1. The Third Meeting of the Forum for Nuclear Cooperation in Asia (FNCA) was held in Seoul, Korea in the 30th-31st of October 2002 under the basic theme 'Atoms for the Next Generation'. Ministers and Senior Officials responsible for the peaceful nuclear research, development and utilization from nine Asian countries - Australia, the People's Republic of China, Indonesia, Japan, the Republic of Korea, Malaysia, the Philippines, Thailand and Viet Nam - participated in the meeting. Observers from the Imitational Atomic Energy Agency (IAEA) and a regional organization also participated. The Third FNCA Ministerial Level Meeting began with the Welcoming Address by Dr. Young Bok Chae, Minister of Science and Technology, Korea, followed by the Congratulatory Address by Mr. Hiroyuki Hosoda, Minister of State for Science and Technology Policy, Japan, and the Opening Address by Professor Yoichi Fuji-ie, Chairman, Atomic Energy Commission of Japan. The Chairperson, Dr. Chang-Kun Lee, Commissioner, Atomic Energy Commission of Korea, reiterated the basic spirit of the FNCA by revisiting the FNCA Vision Statement and Goals.

2. Mr. Soichi Nagamatsu, Deputy Director General for Science and Technology Policy of Cabinet Office of Japan reported the summary of the Senior Officials Meeting (SOM) that was held the previous day. The summary report indicated the progresses of on-going FNCA cooperative projects, and also highlighted three new projects, i.e., 'Application of Electron Beam Accelerator,' 'Tc-99m Generator Production' and 'Bio-Fertilizer. ' These three new projects were basically approved at the SOM in Tokyo in 2001, and have already been initiated since 2002. Another new project on 'Sustainable Development and Nuclear Energy in Asia' was reported for final endorsement at the Third FNCA MM. As for the new project on the 'Asian Institute of Nuclear Science and Technology (AINST)', it was agreed that this proposal should be reexamined in the light of discussions at the roundtable meeting on Human Resource Development summarized under point 5 below with particular consideration on the IAEA'S planned initiation of the International Nuclear University (INU). The proposed project on 'Marine Environmental Pollution Research' was endorsed but subject to revision not to duplicate RCA activities. With this report, the SOM Summary Report was duly adopted at the MM.

3. Each FNCA Country presented its respective country report at Session 1 in the morning of the 31st of October 2002. The Session was co-chaired by the

Minister of Science and Technology of Korea and the Chairman of Atomic Energy Commission of Japan. The reports covered various endeavors of peaceful nuclear programs in each country including the latest progress of nuclear research and development, together with recent policy developments. After reviewing FNCA activities in the previous years, the participating countries expressed appreciation for the tangible progress of activities, and paid attention to the future cooperation within the FNCA framework. In the country reports, various issues were covered. Subsequent questions, answers and comments covered the following topics:

- The vision of the FNCA that nuclear energy should be used strictly for peaceful purposes in the framework of NPT, and the forthcoming meeting in Japan on the universalization of the Additional Protocol for Safeguards.
- Concern regarding the news on North Korean nuclear weapons program and the strong hope that the matter should be resolved peacefully and as early as possible,
- An Asian Mutual Fund for nuclear liability,
- Nuclear knowledge preservation particularly for the young generation, and other matters of concern.

At the meeting, all delegates reiterated the importance of cooperation among the FNCA Countries following the FNCA's goals set by the member countries for the benefits of a better life in a more comfortable environment.

4. In the afternoon session, a representative from IAEA (Mr. M.N. Razley, Section Head, East Asia and the Pacific Section, Department of Technical Cooperation), who participated in this meeting as an observer, delivered a presentation on "Improving Human Welfare through Partnership and Integrated Technologies." Mr. Razely introduced some of the IAEA'S efforts to benefit the FNCA countries, particularly to the Asia-Pacific Region that the nuclear techniques could provide.
5. At the Round Table Discussion, the FNCA Countries expressed their views and made comments on two topics, namely: 'Strategy for Human Resources Development (HRD)' , and 'Sustainable Development and Nuclear Energy.' The first roundtable discussion topic entitled 'Strategy for HRD' was introduced by Mr. K. W. Han (Head of the Nuclear Training Center at Korea Atomic Energy Research Institute). The leadoff speaker emphasized the necessity for nuclear knowledge preservation as a preparatory measure for inducing the second nuclear Renaissance. This view gained other delegates' consensus along with the additional comments that continuous effort should be made to develop human resources in keeping abreast with today's needs and modus operandi. In particular, the following issues were considered

important:

- Promotion of the exchange of information on human resources development strategies in connection with nuclear knowledge management,
- Development of programs for attracting the young generation to nuclear science and technology;
- Harmonization of different interests in technical areas,
- Formulation of an Asian network of higher education and training in nuclear technology for the preparation of the establishment of the International Nuclear University in the future,
- Cooperation and interaction with other regions for human resources development.

In addition, it was suggested that a survey on available human resources with a clearly targeted direction and the future resource need be carried out in FNCA countries, which will provide valuable data for the development of HRD strategy. After further discussion, it was agreed that a high level task group be formed to further scope the potential activities under this topic.

6. Another topic ' Sustainable Development and Nuclear Energy' was introduced for the roundtable discussion by Japan (Mr. T. Endo, Vice-Chairman, Atomic Energy Commission of Japan). He presented an assessment on the utilization of nuclear energy both to power and non-power applications as its contribution to the sustainable development in the modern society. He further added that the proper use of nuclear energy can realize the achievement of the 3E's: 'Energy security', 'Environmental protection' and 'Economic growth'. Many delegates shared the same view with these points that Mr. T. Endo made. Delegates recognized again the close relationship between energy supply and sustainable development. Many delegates expressed the view that nuclear energy would be one of the most important energy sources in the present and beyond. The relationship between the Clean Development Mechanism (CDM) and nuclear energy was discussed, and it was acknowledged that further studies including the proposed project could provide a firm platform for future considerations.

7. The fourth FNCA meeting is scheduled in Autumn 2003 in Japan.