

## **4. Activities & Achievements**

### **4.1 The Background of the Activities and the Present Targets**

#### **(1) Overall Objective of the Project**

Safe handling of radioactive waste (RW) is an important issue in nuclear applications development in FNCA countries, as public interest is enhanced relative to waste issues generally.

Accordingly, it was necessary to promote an international consensus on the safe management of radioactive wastes, to promote regional cooperation in this field and to further strengthen existing technologies among participating FNCA countries. The project was initiated in 1995 to exchange information and to share experiences among the FNCA countries.

#### **(2) Historical Background**

During the 5<sup>th</sup> International Conference for Nuclear Cooperation in Asia (ICNCA) held in Tokyo in March 1994, Indonesia proposed taking up a new theme, that of nuclear safety and radioactive waste management. At the 6<sup>th</sup> ICNCA, it was agreed that the radioactive waste management project would be implemented to promote the safe utilization of nuclear energy in Asia, and to develop a common understanding of radioactive waste management issues and concerns.

#### **(3) Summary of Activities and Results**

- a) From 1995 to 1997 Workshops (then called Seminars), participants focused on exchanging information on RW issues in the Asian region, and organized a systematic discussion of such information.
- b) 1998 Workshop – based on the results of the previous three – participating countries decided to hold Sub-Meetings, concurrently with the main Workshops, to have a more focused discussion of specific issues and concerns in radioactive waste management in the region. The Sub-Meetings were also designed to have young specialists who may have special interests in the discussion topics to participate and contribute positively in the possible resolution of such issues.
- c) At the 1999 Workshop, under the new FNCA framework, information was exchanged and the first Sub-Meeting on spent sealed source management was held. Delegates from FNCA countries discussed the results of activities in this specific area under the general area of radioactive waste management and formulated the activities to be undertaken relative to this.
- d) At the 2000 and 2001 Workshops, activities continued according to the procedures agreed to at the 1999 Workshop. The FNCA countries agreed to publish a Consolidated Report of the status of radioactive waste management in each country and have consequently agreed on a format and editing procedures to be followed.
- e) At the 2002 Workshop, the final draft of the Consolidated Report was confirmed and the way to

effectively implement the findings in order to reach the following consensus;

- Since the final coordination was confirmed at the Workshop, it will be published immediately after the necessary revision. Each country will receive 20 hard copies and the same number of CD-ROMs.
  - Considering the importance of radioactive waste management, effective utilization should be designed in order to promote deeper appreciation of the policy makers and to promote public understanding.
  - In order to contribute internationally, the FNCA is ready to consider wider ranging activities by making available the results obtained in the FNCA countries to such bodies as the IAEA to ensure greater recognition of the FNCA aims and objectives
  - To provide a forum for nuclear cooperation within the region to allow a greater understanding and acceptance of the importance of radioactive waste management to the general public
  - To improve the safety awareness in radioactive waste management.
- f) At the 2003 Workshop, the interim report of new task group activity on TENORM was introduced to FNCA members. The expert team of Japan lead Prof. Kosako visited three countries and made comprehensive discussion on TENORM issue with voluntary countries in the first year, Australia, Malaysia, and Viet Nam. Summary of the TENORM Task Discussion and Survey Meetings is also introduced in the RWM Newsletter No.11.
- g) At the 2004 Workshop, the TENORM Task visit to China and Thailand was introduced to member countries, and agreed to prepare Activity Report, and also to publish the findings in the Japanese Journal of Health Physic (JJHP). At this Workshop, the launch of new task activity concentrated to Decommissioning and Clearance was proposed. After agreement at the FNCA Coordinators Meeting, this new task activity becomes official.
- h) At the 2005 Workshop, the interim report of the new task was introduced to member countries.

In the first year, the Japanese expert team visited Indonesia and the Philippines to discuss about TENORM issue, too. To visit actual site and understand actual situation is very nice way for fact finding.

In order to maintain the RWM Consolidated Report to latest contents, it was agreed at the Workshop to update the existing Consolidated Report by 2007, and to finish draft of the Consolidated Report by 2006 for final review at 2007 Workshop.

- i) At the 2006 Workshop, interim reporting of Task on Decommissioning and Clearance which visited Australia and Malaysia in July and August 2006 respectively. The candidates of 2007 voluntary countries were agreed as Thailand and Viet Nam.

A draft country report of each country for updating the Consolidated Report was confirmed for preparing book-style report by the end of March 2007 for distribution to each country's RWM Project Leader as final confirmation.

j) List of Workshop Venue (Workshops held and planned)

1)	1995 RWM Seminar	Japan (Tokyo)
2)	1996 RWM Seminar	Malaysia (Kuala Lumpur)
3)	1997 RWM Seminar	China (Beijing)
4)	1998 RWM Workshop	Thailand (Bangkok)
5)	1999 RWM Workshop	The Philippines (Manila)
6)	2000 RWM Workshop	Australia (Sydney)
7)	2001 RWM Workshop	Viet Nam (Dalat)
8)	2002 RWM Workshop	Korea (Daejeon)
9)	2003 RWM Workshop	Indonesia (Jakarta)
10)	2004 RWM Workshop	Malaysia (Kuala Lumpur)
11)	2005 RWM Workshop	Japan (Kagamino-cho, Okayama Pref.)
12)	2006 RWM Workshop	China (Beijing)
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13)	2007 RWM Workshop	Thailand (Bangkok)

k) Participants: 370 Persons (cumulatively up to 2006)

l) Highlights of Accomplishments

- i. Information was exchanged and shared on RWM in general. Specific topics included "Current State of Radioactive Waste Management in Each Country, and Problems," "General Concepts in Radioactive Waste Management," "Radioactive Waste Management Education/Training" and "How to Carry Out Cooperative Activities in Radioactive Waste Management in Asia."
- ii. In order to have an in-depth discussion of priority issues unique to the host country of the particular Workshop, Sub-Meetings were held with the participation of specialists from a broad range of related fields.
- iii. A detailed reporting of RWM Status in the FNCA Countries was carried out by the use of a questionnaire type survey.
- iv. RWM Newsletters were published, a web-site was created.
- v. Since 2001, a task group on "spent radiation source management" has been established as part of the RWM Project. Task group activities were initiated with discussion/survey meetings held in the Philippines and Thailand as volunteer countries of 2001. And for 2002, task group activities continued the discussion/survey meetings held in Indonesia and Korea, where experts from the Philippines and Thailand, respectively, participated and contributed actively.
- vi. Since 2003, a task group on "TENORM" has been established as a part of the RWM Project. TENORM task group activities were initiated with discussion/survey meetings held in Australia, Malaysia, and Viet Nam as voluntary countries of 2003. And for 2004, task group activities continued to visit China and Thailand

vii. Since 2005, a task group on “Decommissioning and Clearance” has been established as a part of the RWM Project after TENORM task. Decommissioning and Clearance task group activities were initiated with discussion/survey meetings held in Indonesia and the Philippines as voluntary countries of 2005. And for 2006, task group activities continued to visit Australia and Malaysia. It is planned to visit Thailand and Viet Nam in 2007.

## **4.2 The Activities for the Year 2007**

### **(1) Promotion of Mutual Understanding Among Countries and Commitment to an International Framework;**

Through the previous twelve Workshops, the state of RWM in nine Southeast Asian countries has become clear and mutually understood, and a common commitment to an international framework has been promoted.

### **(2) Regular Publication of Radioactive Waste Management Newsletter;**

The RWM Newsletter is published twice a year. Publication alternates between Japan (odd-numbered editions) and the current Workshop host country (even-numbered editions). To date, editions No. 1 to No. 17 have been published in that manner and will be continued.

### **(3) Creation of Web-site and Database;**

Articles on the RWM Project in the FNCA web-site have been enhanced.

FNCA web-site : <http://www.fnca.jp/english/>

### **(4) Publication of Consolidated Report**

A consolidated report including data on RWM in all countries was published in March 2003.

An updated consolidated report is being prepared and will be distributed to each country’s RWM Project Leader for final review.

### **(5) Activities of Decommissioning and Clearance Task Group;**

This is three years activity which began from 2005.

In the first year, Discussion/Survey Meetings were held in Indonesia and the Philippines as voluntary countries.

Participants discussed what was useful and necessary based on actual cases in those countries and how issues were handled in other countries.

From the results, they recognized that the Task Group activities were useful.

At the 2005 RWM Workshop held in Kagamino-cho, Okayama Pref., Japan, the interim report on the results of Task discussions in 2005 was introduced and discussed among the participants of the workshop, and it was agreed that Discussion/Survey Meetings would also be held in Australia and Malaysia in 2006. At the 2006 RWM Workshop held in Beijing, China, the interim reporting was also done, and the last year's plan to visit Thailand and Viet Nam was agreed by the participants of workshop. Activity report of this task will be prepared and published by the end of March 2008.

### **4.3 The FNCA 2006 Workshop**

The FNCA 2006 Workshop on Radioactive Waste Management was held from November 20 to 24, 2006, at Beijing, China. This Workshop was hosted by the China Atomic Energy Authority (CAEA) and the China National Nuclear Corp. (CNNC) as the local host organizations and the Ministry of Education, Culture, Sports, Science and Technology (MEXT) of Japan, in cooperation with Japan Atomic Industrial Forum, Inc. (JAIF).

Representatives involved in policy making, regulation, operations and R&D on radioactive waste management attended the Workshop from the nine FNCA countries, i.e. Australia, China, Indonesia, Japan, Korea, Malaysia, the Philippines, Thailand, and Viet Nam.

Workshops consist of presentations by each country and Round Table Discussions. In the presentations, each country reports on its current situation and problems.

At the Round Table Discussions, proposed solutions to each country's problems are discussed. In conjunction with the Workshops, Sub-Meetings are held, where situations, problems and proposed improvements taken up in the Workshops are discussed both in regulatory and technical contexts.

Following each Workshop, Project Leaders and specialists continue exchanging information and consolidate results prior to the next Workshop.

#### **<Country Report>**

On the first day, Session 1, country reports were presented on present status and progress of radioactive waste management activities in each FNCA country.

#### **<Poster/Mini-Exhibition>**

After Session 1, Poster/Mini-Exhibition was held. This Poster/Mini-Exhibition was successful in enhancing further the understanding of activities in RWM among FNCA countries.

#### **<Sub-Meetings>**

On the second day, sub-meetings were held on "Conceptual Design of Near Surface Repository", "Waste Treatment and Conditioning for Disposal" and "Management of Medical

Waste” as Session 2, 3 and 4, to promote comprehensive understandings from different viewpoints of FNCA countries.

**<Technical Visit>**

On the third day, a technical visit to China Institute of Atomic Energy (CIAE) was undertaken. The visit activities were; (1) Nuclear Safeguards (2) Comprehensive Treatment Facility for Radioactive Liquid Wastes (3) Industry Waste Water Discharge (4) Low-level Radioactivity Laboratory, etc.

**<Roundtable Discussion: Interim Reporting of Task Activity >**

On the fourth day, a roundtable discussion on “Interim Report of Decommissioning and Clearance Task” was held as Session 5 to confirm the result of Discussion/Survey Meeting in Australia and Malaysia highlighting the importance of collection of technical data on-site and assessment of the local situation. It was also recognized that common approaches should be investigated to settle scientific and rational regulations in order not to place unnecessary burden on the public and industry of the FNCA region.

**<Roundtable Discussion: RWM Consolidated Report>**

In Session 6, a roundtable discussion was held on “Progress of RWM Consolidated Report”. It was recognized that the update of the Consolidated Report is important and useful for FNCA countries. The Revised Report will be collected by the end of March 2007 and will be published in early 2008.

**<Roundtable Discussion: 3-Year Plan for 2005-2007>**

Finally in Session 7 “RWM 3-Year Work Plan for 2005-2007” under FNCA framework was discussed. Items agreed upon by the Workshop participants on the activities in and after fiscal year 2007 are as follows:

- 2007 RWM Workshop will be held in Thailand (Nov. 18-23, 2007).
- The Task Group Activities (Discussion/Survey Meetings) on decommissioning and clearance will be held in Thailand (July 29-Aug. 3, 2007) and Viet Nam (Aug. 19-24 2007) in 2007.
- The candidate of themes on the next Sub Meetings were as follows.

For example: “Safety assessment of disposal facility”, “Site investigation for disposal facility”, “Conceptual design of near surface disposal facility”, and “Management of Medical waste“.

#### **4.4 Proposed Activities in and after the Workshop in China**

**(1) Continuing Information Exchange toward Mutual Understanding**

: The FNCA 2007 Workshop on RWM will be held in Thailand.

**(2) Information Exchange Network**

: Development of the newsletter and web-site will be continued.

**(3) Consolidated Report**

: Updated information on each country's RWM will be published in early 2008.

**(4) Task Group Activities**

: The three year plan of the Task Group activities on Decommissioning and Clearance will be finished in 2007. The activity report of this task will be published by the end of March 2008.

**(5) Plans for the FNCA 2007 Workshop on RWM**

: At the 2006 Workshop held in China, it was agreed to hold the 2007 workshop in Thailand with the Sub-Meeting's themes as follows.

Sub-Meeting Theme (Tentative)

- 1) Safety assessment of disposal facility
- 2) Site investigation for disposal facility
- 3) Conceptual design of near surface disposal facility
- 4) Management of Medical waste

#### **4.5 Future Cooperation Activities in the Area of RWM**

- i. Workshops with Sub-Meetings will be held once a year and activities will be continued to help countries in better understanding the RW management conditions and problems in Asia.
- ii. Production of a common RWM manual for all FNCA countries will be considered.
- iii. Developing and updating databases (including consolidated reports and information on radioactive waste) will be continued.
- iv. Developing the information exchange network (RWM Newsletter, web-site) will be maintained.