

## Introduction of Member State Support Program (MSSP) of Korea

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### 1. Introduction

The demand of nuclear energy is sharply increasing to solve the energy and environment problems all over the world. The interest and support on the field of nuclear energy in Korea are enlarging as the acceptance of ordering nuclear power plant of UAE. The attention of safeguards is needed to maintain peaceful use of nuclear material and the nuclear nonproliferation as the increasing demand of nuclear energy.

The International Atomic Energy Agency (IAEA) invests more in research and development to achieve the effective and efficient implementation of safeguards. Research and development (R&D) in safeguards approaches, procedures and techniques is essential to meeting the safeguards challenges of the future. The IAEA has conducted the R&D program through member state support program (MSSP) since 1977.

The objective of this paper is to introduce the MSSP and policy of Korea on MSSP.

### 2. Member State Support Program (MSSP)

In this section the background of MSSP and current status of ROK-SP (Republic of Korea Support Program) are described.

#### 2.1 Background

The purpose of the MSSP is to assist the IAEA's Department of Safeguards meet its objectives and improve the practice of implementing its verification activities in a manner which is relevant, credible, effective, efficient, and encourages innovation and excellence.

MSSPs provide extra-budgetary funding for research, development and implementation support for IAEA safeguards. The first MSSP was established in 1977. Today there are 21 member states for support programs, i.e. those of: Argentina, Australia, Belgium, Brazil, Canada, China, the Czech Republic, the European Commission, Finland, France, Germany, Hungary, Japan, the Netherlands, the Republic of Korea, the Russian Federation, South Africa, Spain, Sweden, the UK and the USA.

The overall, annual contributions of MSSPs to safeguards exceed \$20 million per year, addressing such needs as the development of safeguards concepts and information processing, verification technologies and training. The IAEA communicates its research, development and safeguards implementation objectives to the MSSPs through its R&D Program for nuclear verification. MSSP support is crucial to the IAEA

because limited regular budget resources preclude it from implementing R&D tasks directly. In addition, the IAEA relies on the unique type of assistance that MSSPs can provide, such as national laboratories to develop equipment for safeguards verification; facilities for training inspectors; laboratories for conducting independent analyses; and open source information. MSSPs remain the principal vehicle through which the IAEA achieves its safeguards R&D objectives.

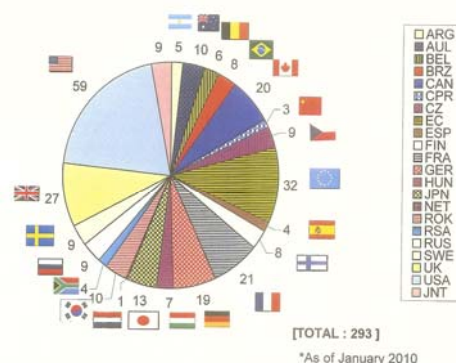


Fig. 1. Proportion of Tasks by Country

#### 2.2 Current Status of ROK-SP

Ever since 1998, when the ROK joined the MSSP membership, the Korea has conducted 17 projects; 11 of which was completed and 6 other projects are on process. The 6 on-going projects are as below;

- ✓ Implementation of Virtual Private Networking for Remote Monitoring at Wolsong Facilities
- ✓ Qualification of Environmental Network Laboratories
- ✓ Provision of Open Source Information
- ✓ SPRICS 2.0
- ✓ Guidance for Designers and Operators on Design Features and Measures to Facilitate the Implementation of Safeguards at Future Nuclear Fuel Cycle Facilities
- ✓ Support for Development of IAEA Safeguards for Pyro-processing Plant

The project 'Provision of Open Source Information', as the first project of ROK-SP, has being continued since 1998. The IAEA makes use of this information provided voluntarily to analyze and evaluate the nuclear activities of ROK together with inspection, containment and surveillance.

The Korea cooperates with the IAEA in order to show the transparency of the pyro-processing facility through the project of IAEA safeguards for pyro-processing plant.

The development of OFPS (Optical Fiber Probe System) is one of the representative achievements, which is approved as Category-A inspection equipment by the Agency. This equipment enables the decrease of time and cost in inspections at CANDU reactor.

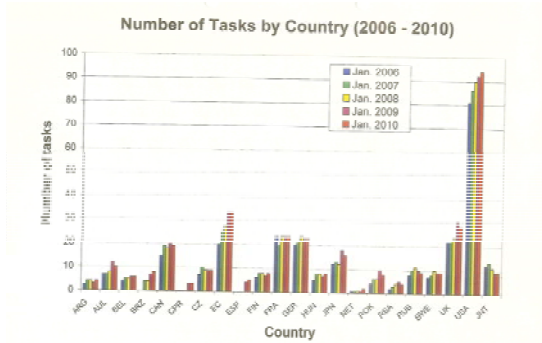


Fig. 2. Nubmer of Tasks by Country (2006-2010)

### 3. Plans

The IAEA proposed new projects during ROK-SP Annual Review Meeting which was held in Vienna on 8 March, 2010. The Korea is also considering expanding ROK-SP based on newly proposed items such as providing a circumstance for safeguards training and sending expertise as the CFE/JPO to IAEA. The Korea will possess experts on safeguards and accelerate the going into the international agency like IAEA.

In addition to these new items, the Korean government plans to increase the amount of budget for ROK-SP. The efforts definitely enlarge the role of Korea in the field of international safeguards and contribute to enhance the efficiency and effectiveness of the IAEA safeguards activities.

### 4. Conclusions

The safeguards activities are important and necessary activities to lead the nuclear Renaissance without any concern about diversion of the nuclear material to nuclear weapons. The R&D program is also needed to improve the efficiency and effectiveness of safeguards activities following the changing environment. The contribution to IAEA through MSSP will be able to raise the nuclear transparency and prestige of the Korea.

### REFERENCES

- [1] 2010 Coordinators' Meeting document, IAEA.
- [2] 6<sup>th</sup> ROK-SP Annual Review Meeting document, KINAC.