

# Status of Management of the Items subject to Nuclear Cooperation Agreement at KAERI

Hyun-Jo Kim\*, In-Chul Kim, Byung-Doo Lee, Sung-Ho Lee, Hyun-Sook Kim, and Juang Jung  
Korea Atomic Energy Research Institute, 111, Daedeok-daero 989beon-gil, Yuseong-gu, Daejeon, Republic of Korea  
\*keiki@kaeri.re.kr

## 1. Introduction

ROK has nuclear cooperation agreements with several countries for the peaceful use of nuclear power. The agreements and administrative arrangements for implementing these agreements with some countries include the management of the items subject to the agreement and providing of annual report on inventory and inventory changes of the items. Generally, the items subject to the agreement refer to nuclear material, material, equipment and information, and some countries include the items derived from the transferred items.

KAERI has been providing the annual reports on the inventory and inventory changes of the items subject to the agreement to Canada and Australia since 1980s and Japan since 2013. The annual report on US items was added after the nuclear cooperation agreement between ROK and US was revised in 2015 and an administrative arrangement was signed in 2016. ROK had managed the origin of nuclear material, but since the revision of the agreement with the US, it has replaced by the obligation instead of the origin.

This paper describes the status on the management of the items subject to the bilateral agreement at KAERI.

## 2. Management of items subject to the agreements

### 2.1 Status of annual report on the items subject to the agreements

ROK has obligation to provide the annual report to Canada, Australia, Japan and the US. The items in the annual report may differ slightly by the country of agreement.

#### (1) Australia

ROK should provide an annual report on all nuclear materials transferred between ROK and Australia every January. KAERI has been providing the annual report on nuclear materials including yellow cake transferred from Australia since 1987.

#### (2) Canada

ROK should provide the annual report on all nuclear materials, material, equipment and information subject to the agreement every March. In addition, the items, which are used, produced, developed, processed, reprocessed, enriched, fabricated or converted from, by, in or with the items supplied pursuant to the agreement, should be included. Thus, KAERI manages the nuclear materials irradiated at HANARO research reactor that includes Canadian equipment and information as non-canadian origin. KAERI has been providing the annual report on Canadian nuclear materials, non-canadian nuclear materials, material and some equipment and information related to HANARO research reactor since 1983.

#### (3) Japan

The items that should be provided in the annual report to Japan are nuclear materials, material, equipment and technology. KAERI has been providing Japan with the annual report on technology

of plant specification since 2013.

(4) United States

The items and forms included in the annual report were finalized after an administrative arrangement was signed. ROK should provide the annual report on nuclear materials, moderator material, equipment and components subject to the agreement every June. In addition, special fissionable material that was produced through the use of equipment or device that were transferred pursuant to the 1972 agreement includes US obligated nuclear materials. Therefore, KAERI also manages the plutonium produced from non-US nuclear material which was irradiated in US supplied reactor as US obligation. KAERI has been providing the US with the annual report on nuclear materials since 2017.

2.2 Procedures for preparation of annual report

NM control department manages and provides the annual report under the bilateral agreements at KAERI. The procedures for preparation of an annual report are as follows.

- (1) In case of the items except nuclear materials, NM control department requests to all departments at KAERI to confirm if they have the items pursuant to the agreement before submitting the annual report.
- (2) For nuclear materials, NM control department manages the inventory and inventory changes of the nuclear materials by origin management system. KAERI developed the origin management system in 2015 to efficiently manage the origin information. The system is connected with the KASIS (KAeri Safeguards Information treatment System) which has the function of a near real-time accounting. When the operator input the data on inventory

changes in KASIS, it is automatically reflected in the origin management system. Then, NM control department fixes the origin information after the review of invoice and nuclear material transaction report.

- (3) Finally, NM control department review the import and export information and the documents received from other department and prepare the annual report.

### 3. Conclusion

This paper reviewed the management status of the items subject to the bilateral nuclear cooperation agreement at KAERI. In particular, nuclear materials are managed using the origin management system because they have many inventory changes and are more complicated than other items. However, it is difficult to manage US obligated nuclear material since the origin management system was developed before an administrative arrangement between ROK and US took effect. Therefore, it is necessary to revise the system to manage the obligated nuclear material rather than the origin of nuclear material.

### REFERENCES

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