

## **Implementation of the Expanded Declaration under the Additional Protocol in KAERI**

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### **1. Introduction**

The Additional Protocol (AP) to the Safeguards Agreement between the Korean Government (ROK) and the IAEA was signed on 21 June 1999 and entered into force on 19 February 2004.

Korea Atomic Energy Research Institute (KAERI) provided the initial expanded declaration to the Korean government in June 2004. KAERI has also provided the expanded declarations 3 times afterwards.

This report describes the implementation status of the expanded declaration at KAERI and points out the practical issues.

### **2. Implementation of Expanded Declarations**

Each facility has to provide the initial declaration within 180 days of entry into force of the Additional Protocol, and annual updates of the declaration by 15 May of each year except some Articles.

#### *2.1 Initial Expanded Declaration*

KAERI submitted the initial expanded declaration to the Korean government in June 2004, after the AP entered into force in Feb. 2004.

The information to be provided under Article 2.a.(i) of the Additional Protocol is a general description of and information specifying the location of nuclear fuel cycle-related research and development activities not involving nuclear material carried out in KAERI.

The information to be provided under Article 2.a.(iii) is a general description of each building on each site, including its use and, if not apparent from that general description, its contents. The description should include a map of the site.

KAERI provided the information on 26 R&D activities of Article 2.a.(i), 62 buildings in Daejeon site and 15 buildings in Seoul site of Article 2.a.(iii), and 3 items of general plan of Article 2.a.(x).

#### *2.2 Annual update Expanded Declaration*

KAERI submitted annual update declaration to the Korean government in March 2005 and the details of the declaration are as follow;

- the revision of 5 R&D activities out of 26 items which were declared under Article 2.a.(i) in 2004;
- addition of 1 R&D activity of Article 2.a.(i);
- the revision of 9 buildings out of 62 buildings at KAERI Daejeon which were declared in 2004;
- addition of 1 item of under 2.a.(iv); and

- no change of Seoul site of Article 2.a.(iii) and general plans of Article 2.a.(x).

#### *2.3 Expanded Declaration by Agency request*

The IAEA requested certain amplifications and clarifications of the initial declaration in November 2004 and in May 2005 as follow;

- 5 buildings in Daejeon site of Article 2.a.(iii) in Nov. 2004;
- 2 R&D activities of Article 2.a.(i), 4 buildings in Seoul site and 2 buildings in Daejeon site of Article 2.a.(iii) in May 2005.

KAERI submitted the expanded declaration reflecting the revision of 12 buildings in January 2005 by Article 2.c upon the IAEA request in Nov. 2004.

The nuclear activities on nuclear material experiments in the past, the revised name of some buildings and revised map of Daejeon site in addition to IAEA request were submitted to IAEA.

KAERI also submitted the expanded declaration reflecting IAEA requests in June 2005 by Article 2.c.

### **3. Procedures for the Implementation of AP**

#### *3.1 Expanded Declaration of Article 2.a.(i)*

For the preparation of declaration of Article 2.a.(i), Nuclear Control Management Department (NCMD) requests R&D project managers to provide the information if the R&D project is satisfied under the Article 2.a.(i) of AP, and also gets the lists of R&D project from relevant department.

During the preparation of the declaration of "nuclear fuel cycle-related R&D", following issues were discussed:

- the definition of basic or theoretical research, which are not required to be reported;
- the research activities related to the safety;
- the level of a project which is reportable, i.e., whether the reporting of large projects is suitable or whether small unit projects should be reported individually; and
- whether or not to report large R&D projects, part of which involves nuclear material.

If the project managers don't give the information for R&D project, then NCMD contacts the R&D project manager to confirm that its project is not really included in the AP after checking the lists and purpose of the project.

#### *3.2 Expanded Declaration of Article 2.a.(iii)*

For the preparation of declaration of Article 2.a.(iii), NCMD visits each building and gets some information from relevant departments.

Following issues were considered for declaration as follows:

- the boundary of the KAERI-Daejeon site, where four institutes and many venture companies exist within a fences;
- the description of the building which contains a lot of R&D activities;
- checking the consistency of the information against existing safeguards information;
- the map to be checked to assure that all buildings were shown;
- choosing the place for the managed access; and
- whether or not to use nuclear material in the past.

There are some difficulties for declaration of Article 2.a.(iii).

First of all, the map of Daejeon needs to revise. The IAEA performed the site walk at KAERI in May 2005 and the IAEA inspector mentioned that the map of AP is not consistent with the map of satellite.

The declaration of Article 2.a.(iii) should include all buildings (and other relevant structures including temporary buildings or structures) on each site.

However, the map of KAERI Daejeon does not include a few of building at KAERI such as guard office, temporary containers etc. In addition, some building has one building number and name even though it physically consists of several independent structures.

KAERI have to consider how to update and manage the map of Additional Protocol in the future and may need to purchase a satellite map.

Secondly, NCMD has to visit and check the contents of the building for all buildings at site. However, it is difficult to grasp the contents of all buildings, so that some contents were known afterwards.

For example, the concrete hot cell for treatment of radioactive waste was declared in annual update declaration in 2005 and the some contents will be also declared in the next declaration. Additional manpower is needed for declaration of Article 2.a.(iii) to check the contents of all buildings in KAERI every year because some R&D labs can be moved and exchanged to another places.

### 3.3 Complementary Access

Complementary Access(CA) has been carried out 5 times since Aug. 2004. The procedures of practical CAs are in KAERI as follows:

- ① NCMD conveys the CA schedule to the relevant dept. to obtain entry permission.
- ② NCMD and inspector briefly discuss the purpose, activities and procedure for the access, if necessary.

- ③ NCMD makes contact with the relevant person, who is responsible for the designated place by the inspector.

- ④ NCMD accompanies the IAEA inspector to the designated place.

- ⑤ Facility manager supports the inspector in performing the verification activities specified under the AP.

For the preparation of CA in KAERI site, the internal procedures on 2 hours and 24 hours should be developed and established in the near future.

## 4. Conclusion

There are some practical issues as was mentioned above. The revision of map at Daejeon and the check the contents of all building is pending issues especially. In addition, procedures and method for the implementation of the expanded declarations should be reviewed and developed in the near future for the more efficient implementation of the expanded declarations.

## REFERENCES

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