

The National Inspection at KAERI

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1. Introduction

The IAEA SLA(Sates level Approaches) has been applied to KAERI(Korea Atomic Energy Research Institute) nuclear facilities since 2015. The IAEA has carried out the inspection at the KAERI nuclear facilities in accordance with “implementation procedures for safeguards measures for the nuclear facilities at the KAERI-Daejeon site in the ROK” which was agreed with KAERI.

The national inspection has been carried out at nuclear facilities pursuant to domestic law and regulation in parallel with IAEA safeguards and independent national inspection has also carried out. The ROK government has continuously amended the regulation and domestic law to reflect the requirements for the IAEA safeguards implementation. The national inspection activities were the same with those of IAEA. But the national inspection result is not authorized by IAEA and it causes much controversy that it is an overlapping regulation on the nuclear facilities. So the Notification of the NSSC(Nuclear Safety & Security Commission) on the national inspection was amended to establish the independent national inspection system in Sep. 2014. So, it had a direct influence on the safeguards implementation of KAERI nuclear facility including the national inspection.

The KINAC(Korea Institute of Nuclear Nonproliferation and Control) established for the implementation of the SSAC under the National Atomic Law in 1994. It is technical support organization of the NSSC in ROK. The NSSC entrusted the KINAC to perform the national inspection and to access the safeguards information.

In this paper, the major changes of the national inspection are summarized. Also, the status of the national inspection and the internal regulation of the nuclear material accountancy for the nuclear facilities at KAERI are described.

2. National Inspection

As the Notification of the NSSC on the national inspection was amended, the national inspection in

respect of KAERI nuclear facilities was changed as follows :

2.1 Type and Frequency of the national inspection

Table 1 shows the type and frequency of the national inspection. One routine inspection per year in respect of all KAERI facilities and LOF is performed aside from IAEA inspection. The pre-operational, interim and special inspection may perform if necessary.

Table 1. The type and frequency of the national inspection

	Type	Frequency
1	Pre-operational inspection	If necessary
2	Routine inspection	One time/year
3	Interim inspection	If necessary
4	Special inspection	If necessary

2.2 Activity of the national inspection

Before the amendment of the Notification of the NSSC on the national inspection, the document to be provided to the KINAC at the national inspection was as follow:

- GL(General Ledger) ; PIV and RII
- Inventory list as of the date of PIT ; PIV and RII
- ICRs(Inventory Change Reports) ; PIV and RII
- Relevant source documents ; PIV and RII
- PIL(Physical Inventory List) ; PIV
- MBR(Material Balance Report) ; PIV

After it was amended, the document to be provided to the KINAC at national inspection was changed as follows :

- Records and reports on the termination of safeguards on nuclear material to be used in non-nuclear activities, request for exemption from safeguards of nuclear material, re-application of safeguards in respect of nuclear material previously exempted, DIQ, accounting reports, special reports, report of intended transfers of nuclear material out of ROK, nuclear material inventory by origin, operation activity information, site information, nuclear fuel cycle-related research and development activities not involving nuclear material, annual safeguards schedule, operation records, other reports etc.
- Other accounting related document requested by KINAC.

The KINAC places greater emphasis on the verifying that the SG implementation is consistent with the approved “internal regulation of the nuclear material accountancy for the nuclear facilities” than the verification of the information contained in the report on nuclear material subject to safeguards at the national inspection. Also, the national inspection broadened its scope to include the affirmation of the adequacy on the accounting related procedures, the adequacy of the records and procedures related the nuclear material accountancy and the management statues of equipment used etc. But the implementation procedures and criteria of the national inspection are not clear. So it is necessary for the NSSC and KINAC to establish and enhance them for the optimal national inspection system.

3. The national inspection at KAERI

KAERI consists of 10 nuclear facilities and 1 LOF(Location Outside Facility) subject to the IAEA safeguards. A facility manager designated at each nuclear facility conducts the implementation of safeguards. The NMCT(Nuclear Material Control Team) designated as counterpart for the international and domestic safeguards work at KAERI is charge of the implementation of the overall safeguards matters arising at each facility. So the NMCT has to prepare the inspection document base on the information received from each facility manager and provide them to the IAEA and national inspectors.

3.1 The status of the national inspection at KAERI

Fig.1 shows the status of the national inspection in respect of the KAERI nuclear facilities from 2008 to 2015. It shows that the frequency of the national inspection was decreased since the amendment of the Notification of the NSSC on the national inspection. The KINAC had carried out one PIV and RII per year including IAEA inspection in respect of all KAERI facilities and LOF. The KINAC performed one routine inspection in respect of all KAERI facilities and LOF and one special

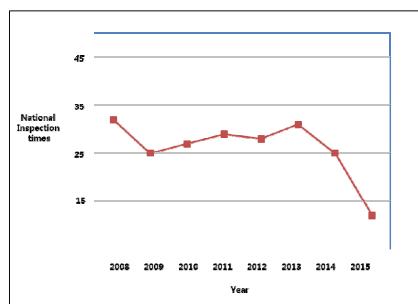


Fig. 1. The status of the national inspection in respect of the KAERI nuclear facilities from 2008 to 2015.

inspection in 2015.

3.2 The internal regulation of the nuclear material accountancy for the nuclear facilities at KAERI

The internal regulation of the nuclear material accountancy for the international and national safeguards implementation should be approved from the NSSC and observed by the KAERI in accordance with the national law. It is included the detailed procedure for the inspection preparation of the nuclear facilities as well as the reports to be provided to IAEA through NSSC. It is also described how to prepare the documents and to maintain the nuclear material accountancy data at each facility. As the Notification of the NSSC on the national inspection was amended in Sep. 2014, the internal regulation of the nuclear material accountancy for the nuclear facilities need to be revised to reflect the detail accountancy procedures and the preparation of the national inspection. So, KAERI will revise it to meet the international and national requirements as well as to implement the safeguards effectively at facility level.

4. Summary

In this paper, the major changes of the national inspection in respect of the KAERI nuclear facilities were summarized. The frequency of the national inspection was decreased since the amendment of the Notification of the NSSC on the national inspection. But the national inspection broadened its scope and its implementation procedures and criteria were not clear. So, it is necessary to establish and enhance the national inspection system including the implementing guides and criteria.

In addition, the internal regulation of the nuclear material accountancy for the nuclear facilities should be approved from the NSSC and observed by the KAERI in accordance with the national law. As the Notification of the NSSC on the national inspection was amended in Sep. 2014, it need to be revised to reflect the detail accountancy procedures and the preparation of the national inspection. So, KAERI will revise it to meet the international and national requirements as well as to implement the safeguards effectively at facility level.

5. REFERENCES

- [1] Implementation procedures for SG measures for Pyroprocessing facilities at the KAERI-Daejeon site in the ROK, Jan.2015.
- [2] Implementation Procedures for Inspection Activities at KAERI Site in ROK, Aug. 2015.