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Domestic Safeguards Approaches: Differences between ROK and U.S.

Ickhyun Shin

KINAC
KOREA INSTITUTE OF NUCLEAR NONPROLIFERATION AND CONTROL

1. Background

- **The KINAC has been carrying out reviews on the rules submitted by the NMHs and conducting domestic independent safeguards inspection to ensure that the holders are implementing the safeguards obligations under the agreement between ROK and IAEA**

- **The United States, likewise, signed the safeguards agreement with the IAEA and is undergoing IAEA inspections on some nuclear facilities, while the U.S. NRC implements the domestic independent safeguards inspection for nuclear security purposes.**

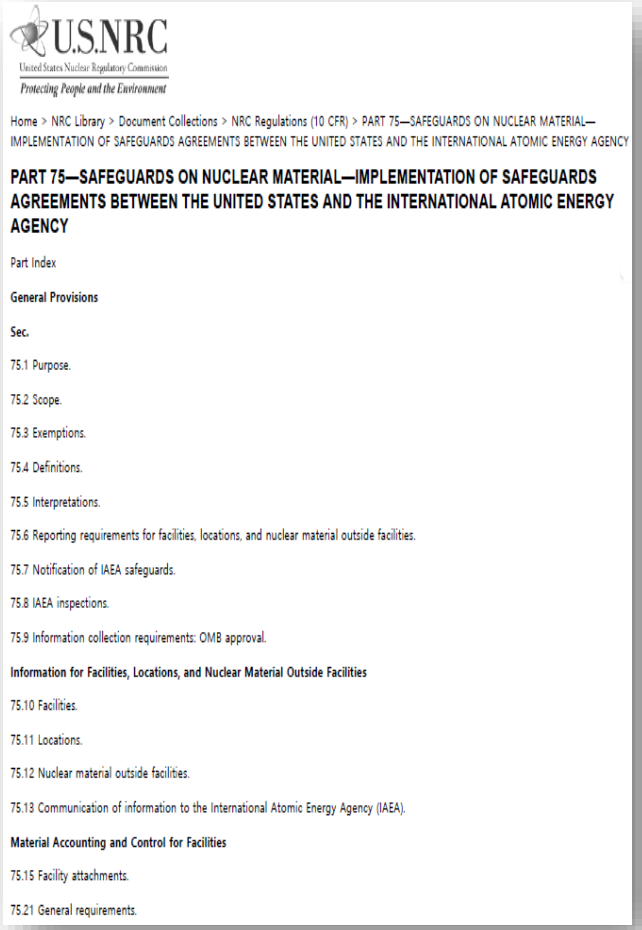
- **In this paper, differences between the U.S. and the ROK on domestic safeguards inspection are compared, recommendation for enhancement of both nuclear security and safeguards of ROK are suggested.**

2. ROK's Safeguards

- **Safeguards Agreement between Republic of Korea (ROK) and the IAEA was entered into force on November 14, 1975**
- **Additional Protocol to the ROK was also entered into force in February 2004 for the purpose of detecting undeclared nuclear activities**
- **The ROK has revised Nuclear Safety Law to enforce the obligations according to the Agreement and the Protocol. The law requires nuclear material holders to develop nuclear material accounting and control rule which shall be approved by the ROK's NSSC**
- **The KINAC, Technical Support Organization for the NSSC, has been carrying out reviews on the rules submitted by the holders and conducting domestic independent safeguards inspection**

3. IAEA Safeguads in U.S

- **The U.S. voluntarily agreed to permit the IAEA's safeguards inspection by signing the agreement between the U.S. and the IAEA in 1977.**
- **The additional protocol to the U.S. was also entered into force in 2004. More than 250 nuclear licensees regulated by the NRC can be subject to the IAEA safeguards.**
- **The NRC established 10 CFR Part 75 to specify the obligations of NRC and nuclear licensees under the safeguards agreement with the IAEA**



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Information for Facilities, Locations, and Nuclear Material Outside Facilities

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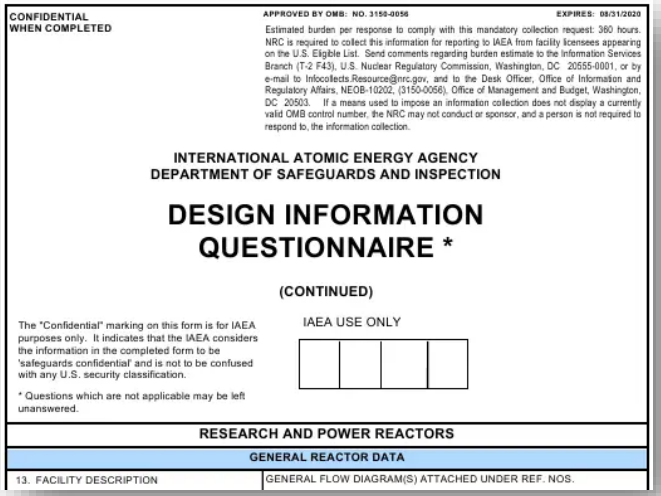
4. NRC's Role on IAEA Safeguards

- **Licensees selected to undergo IAEA safeguards are required to submit a design information questionnaire and initial inventory of nuclear material to the NRC**

- **Then the NRC reviews and submits those documents to the IAEA. And the licensees undergo the IAEA's inspections which are accompanied by the NRC employees during the visit.**



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Estimated burden per response to comply with this mandatory collection request: 360 hours. NRC is required to collect this information for reporting to IAEA from facility licensees appearing on the U.S. Eligible List. Send comments regarding burden estimate to the Information Services Branch (T-2 F43), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to Infocollects.Resource@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0056), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

INTERNATIONAL ATOMIC ENERGY AGENCY
DEPARTMENT OF SAFEGUARDS AND INSPECTION

DESIGN INFORMATION QUESTIONNAIRE *

(CONTINUED)

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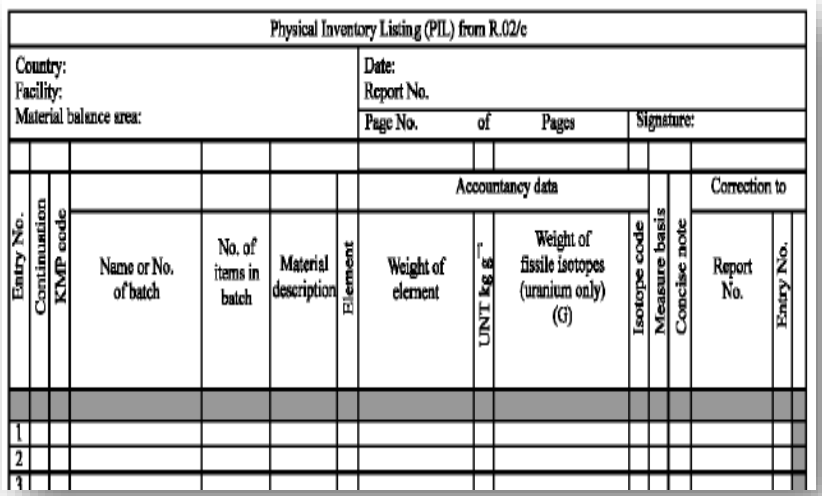
* Questions which are not applicable may be left unanswered.

RESEARCH AND POWER REACTORS

GENERAL REACTOR DATA

13. FACILITY DESCRIPTION	GENERAL FLOW DIAGRAM(S) ATTACHED UNDER REF. NOS.



Physical Inventory Listing (PIL) from R.02/c

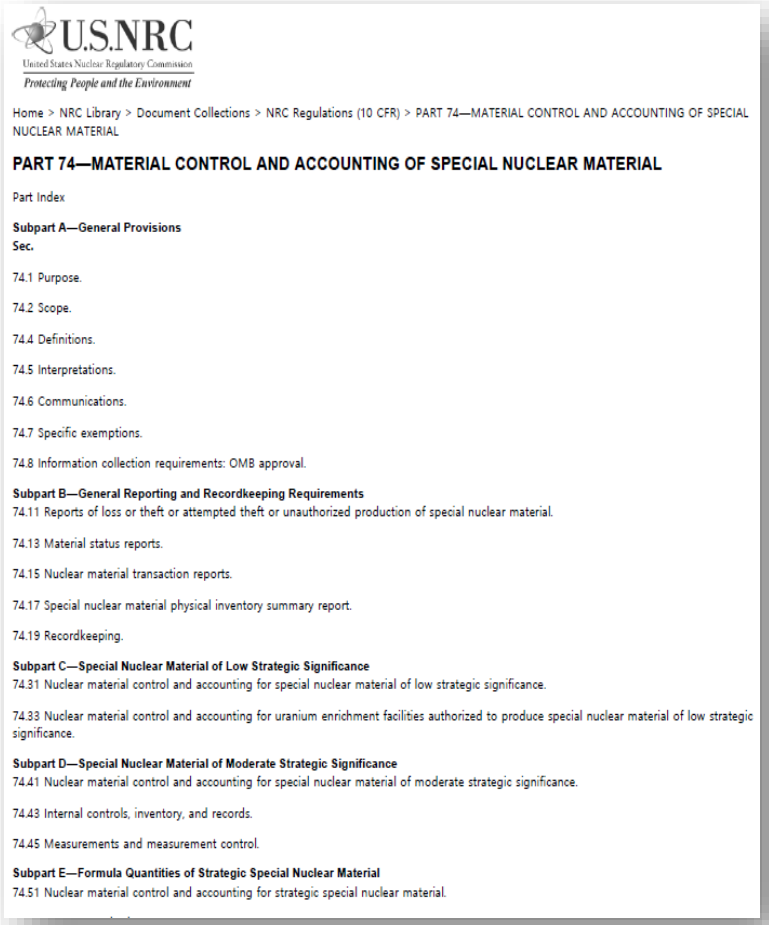
Country:
Facility:
Material balance area:

Date:
Report No.
Page No. of Pages
Signature:

Entry No.	Continuation	KMP code	Name or No. of batch	No. of items in batch	Material description	Element	Accountancy data: Weight of element	UNT kg U	Weight of fissile isotopes (uranium only) (G)	Isotope code	Measure basis	Concise note	Correction to: Report No.	Entry No.
1														
2														
3														

5. U.S. NRC's Domestic Safeguards

- **The purpose of NRC domestic safeguards is to ensure that the special nuclear materials are not stolen or diverted and exposed to a radiological sabotage risk.**
- **The requirements are specified in the 10 CFR Part 74**
- **As general requirements, SNM holders should report Material Balance Reports to the NRC and record any changes made to SNM by transfer or receive**



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PART 74—MATERIAL CONTROL AND ACCOUNTING OF SPECIAL NUCLEAR MATERIAL

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6. Differences in Domestic Safeguards_1

- **The roles of NRC and KINAC and the roles of nuclear licensees are similar under the safeguards agreement with the IAEA. The NRC and KINAC perform technical support roles during IAEA inspections**

- **However, the NRC's main objective of domestic safeguards is to ensure that special nuclear material is not stolen or otherwise diverted from civilian facilities for possible use in clandestine fissile explosives and does not pose a radiological sabotage risk**

- **Thus this objective meets the NRC's mission which is to regulates the radioactive materials to provide reasonable assurance of adequate protection of public health and safety and to promote the common defense and security and to protect the environment.**

7. Differences in Domestic Safeguards_2

	NRC's Domestic Safeguards Regulation	KINAC's National Independent Safeguards Regulation
Objective	Strengthen Nuclear Security	Strengthen Nuclear Transparency
Inspection	Ensure that SNM is not stolen or diverted	Check whether NMHs are affordable for IAEA safeguards
Notification	Notify within 1 hour of discovery	No immediate notification
Penalty	Strong	Weak

8. Conclusions

- It would be beneficial if the ROK revise existing domestic safeguards regulation program to cover not only international safeguards but also nuclear security.
- But, various aspects need to be considered since there exists difference between safeguards measures and security measures.
- One example is the seals which is very effective for verification of unauthorized tampering but does not properly provide protection against stealing nuclear material.

Thank you

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KOREA INSTITUTE OF NUCLEAR NONPROLIFERATION AND CONTROL
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