

Periodic Inspection for Permit Users



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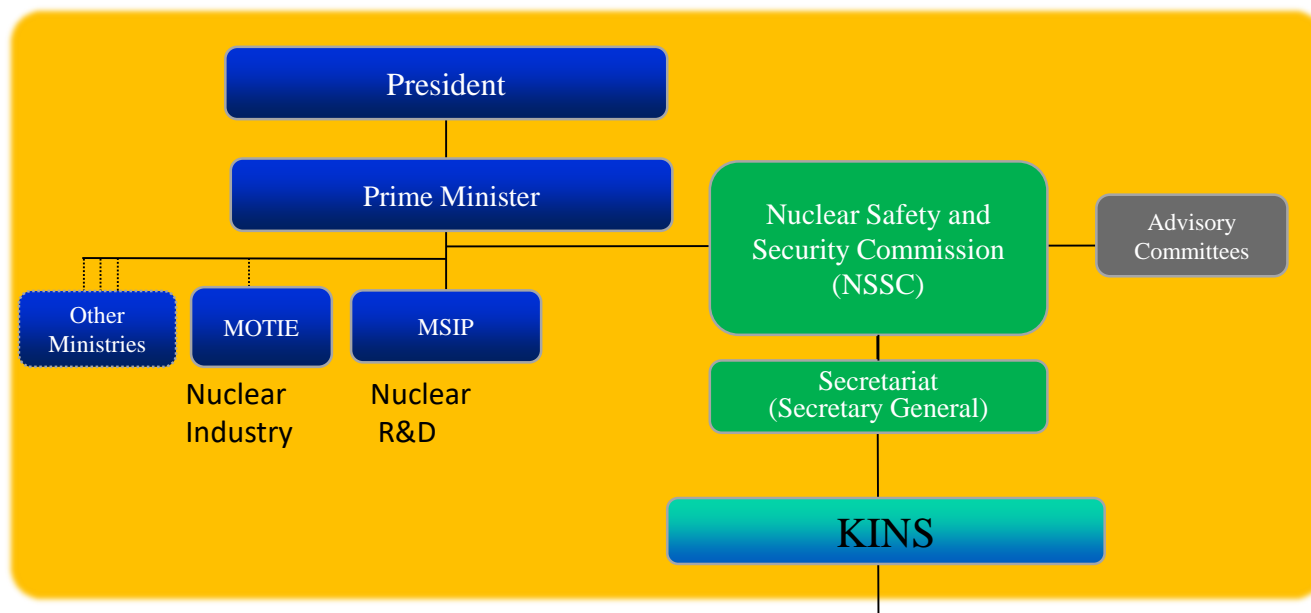
Korea Institute of Nuclear Safety



Regulatory Framework

- Nuclear Safety and Security Commission(NSSC) is an independent central administrative and regulatory authority under the Prime Minister and responsible for 3S (safety, security, and safeguards).
- To enhance the independence of safety regulation, NSSC was established in 26 Oct. 2011 and the functions for nuclear regulation was transferred from MEST(Ministry of Education & Science) to NSSC.
- Korea Institute of Nuclear Safety (KINS) is regulatory expert organization established by Special Act in 1990 supporting NSSC.

Regulatory Framework(cont.)



4 Tiers of Legal Requirements

- Nuclear Safety Act governs all nuclear/radiological activities
- All provisions on nuclear/radiation safety are entrusted to the

NISA

Nuclear Safety Act (NSA)

Provides for basic and fundamental matters concerning the development and utilization of atomic energy and safety regulations

Enforcement Decree of the Act (Presidential Decree)

Provides the technical standards and particulars entrusted by the Act and necessary for the enforcement of the Act

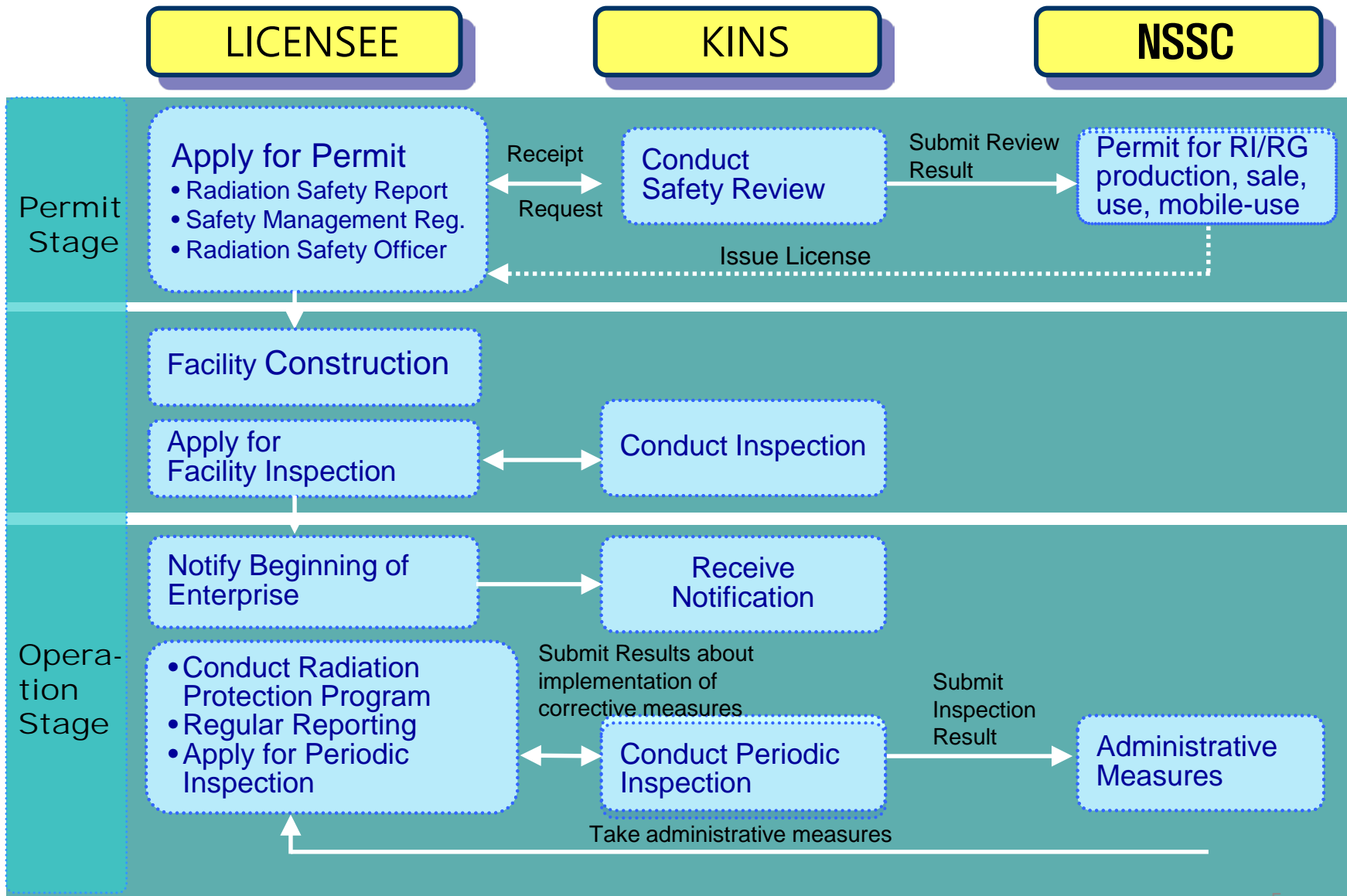
▶ Enforcement Regulation of the Act ▶ Enforcement Regulation concerning the Technical Standards of Radiation Safety Managements

Provides the particulars entrusted by the Act and the Decree such as the detailed procedures and format of documents

Notices of the Chairman of NSSC (Notices of NSSC)

Provides the detailed particulars for technical standards and guidelines

Licensing procedure of Radiation Sources(RI, RG)



Regulatory Inspections

□ Legal Basis

- Article 56 (Inspection) of NSA prescribes that a licensee shall receive inspection on production, sale, use, mobile use on radiation sources by the NSSC
- Article 61 (Inspection) of NSA prescribes that manufacturing or importing radiation devices that received design approval shall receive radiation devices inspection by the NSSC
- Such inspection is entrusted to KINS pursuant to Article 111(Delegation of Authority) of NSA and is being performed by KINS.
- And so on...

Types of Inspections

- ❑ Facility inspection: Planned, Announced
- ❑ Periodic Inspection: Planned, Announced or Unannounced
- ❑ Inspection of the radiation devices: Planned, Announced
- ❑ Random (or Special) Inspection: Reactive, Announced or Unannounced

Periodic Inspection

- The periodic inspection is conducted to verify whether the facility operation and treatment of radiation sources are in compliance with the conditions upon which the license was granted. Article 77 (Timing of Periodic Inspection) of the NSA Enforcement Regulation prescribes the timing for an inspection which reflects graded approach.
- Classified into 1) a one-year, three-year, and five-year cycle based on the handling purpose, method, quantity and capacity of radiation sources.
- This periodic inspection is also divided 2) on-site inspection or document inspection. Document inspection is only subject to three-year and five-year cycle.
- Also, the licensee who has a good previous inspection result and self-safety management is recognized by the Commission to be excellent, the licensee can be **3) exempt from the next inspection**. (only for a one-year cycle inspection)

Frequency of Periodic Inspection (Table 1. Enforcement Regulation)

Description	Frequency
1. business wherein radioisotopes, etc. affect a human body	
(a) For medical treatment and checkup of the inside and outside of a human body	Every year
(b) Others	
(1) Annual usage of not less than 3.7 GBq (100 mCi)	Every 3 years
(2) Annual usage of less than 3.7 GBq (100 mCi.)	Every 5 years
2. business wherein radioisotopes, etc. do not affect a human body	
(a) Sealed radioisotopes	
(1) Annual usage of not less than 111 terabecquerels (3,000 curies)	Every 3 years
(2) Annual usage of less than 111 terabecquerels (3,000 curies)	Every 5 years
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(c) Radiation generating devices	
(1) Greater than 1 G eV	Every year
(2) Less than 1 GeV and not less than 1 MeV	Every 3 years
4. Person who has obtained a permit to sell radioisotopes, etc.	
(a) Sealed radioisotopes	
(1) Annual sales volume of not less than 370 TBq (10,000 Ci)	Every year
(2) Annual sales volume of less than 370 TBq (10,000 Ci)	Every 3 years

# Document Inspection[Article 88 of Decree]

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- If a licensee who meets the following requirements, and performs a self-check on the safety of facility and radiation sources and passes a documentary deliberation, such a self-check shall substitute for a periodic inspection.
- Only applicable to 3 or 5 year inspection period.
- That the licensee was not **subject to a corrective or supplementary order in the immediate former periodic inspection**;
- That a **report under Paragraph 1 of the NSA Article 98 has not been omitted for the last three years**
- That there **was no person with abnormal dosimeter reading results for the last three years**; and
- That there was **no theft, loss, fire, or other incidents involving a radiation sources for the last five years**.

# Exemption of Periodic Inspection

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- ❑ Prescribed in Notice No. 2012-42 (Regulation on Exemption from Periodic Inspection for Permitted User and Business Agent of Radioisotopes, etc.) of the NSSC
- ❑ Only applicable to 1 year cycle inspection period.
- ❑ The exemption from the periodic inspection could be given to the permitted user and business agent who get not less than 70 points in the evaluation by Radiation Safety Evaluation Records
- ❑ This points are calculated by IT-based automatic system

# Radiation Safety Evaluation Records of Permitted User

Items		Periods	Points
1	Periodic or occasional inspection findings	previous year	-30
2	Recommendations for periodic or occasional inspection	previous year	-10
3	Excellent preparation and attitude for periodic or occasional inspection	previous year	+5
4	Intentionally omitted		
5	Excess of dose limit for radiation workers	within a year	-30
		after 1~2 years	-20
		after 2~3 years	-10
6~9	Intentionally omitted		

# Random Inspection

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- Random Inspection (or Special Inspection);
  - Might be carried when **major safety issues or public interest for the safety of radiation sources happen** and the Commission confirms the necessity of random inspection in accordance with Article 98 (Report/Inspection, etc.).
  - Also, might be carried out when **major reportable incidents happen and following site inspection and preparation for a potential accident** are needed in the in accordance with the NSA Article 92 (Measure to Prevent Radiation Damage and Report thereon) and Article 97 (Report of Theft, etc.).

# Guidelines for Inspection

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- **Facility Inspection: KINS Facility Inspection Guideline** (KINS-GI-R010, Facility Inspection Guidelines for Licensed User of Radiation Sources), Procedure (RISM - Radiation Dose Use-03, Facility Inspection Procedure for Licensed User of Radiation Sources)
- **Periodic Inspection: KINS Periodic Inspection Guideline** (KINS GI-R007, Periodic Inspection Guidelines for licensees of Radiations Sources), KINS Procedure (RISM – General Management of Radiation-01, Periodic Inspection Procedure for Licensed User of Radiation Sources)
- **Radiation Device Inspection: KINS Guideline** (KINS GI-R004, Guidelines on Radiation Device Inspection), KINS Procedure (RISM - Device Delivery -09, Procedure for Radiation Device Inspection)

# Planned/Announced Inspection

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- In the case of facility inspection, licensee submits application to KINS pursuant to Article 87 (Application for Facility Inspection) of the NSA Enforcement Decree and Article 76 (Application Form of Facility Inspection) of the NSA Enforcement Regulation. Then KINS notifies a plan with dates, inspectors and other matters and performs inspection.
- In the case of periodic inspection, KINS establishes an annual inspection plan (overview, legal grounds, period and inspectors, licensees inspected, inspection methods, inspection contents, criteria for pass, measures for the inspection results and reporting, etc. ), then reports to and receives approvals from the NSSC. The start of inspection begins after notifying the inspection plan to licensees. Detailed process of periodic inspection is described in the KINS Inspection Procedures.

# Planned/Announced Inspection

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- In the case of radiation device inspection, the licensee submits an application to KINS pursuant to Article 94 (Inspection of the radiation device) of the NSA Enforcement Decree and Article 85 (Application for Inspection of the Radiation device) of the NSA Enforcement Regulation and KINS establishes an inspection plan with fixed dates and inspectors. KINS notifies the plan to licensee, and performs the inspection.
- Random inspection is usually performed after the notification to the licensees inspected, but also takes the form of unannounced inspection if deemed necessary.



# Reactive Inspection

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- As aforementioned, special inspection is performed as a sort of reactive inspection where a reportable event (e.g., relating to an important safety issue, a public concern about radiation safety, radiation incidents) has happened, or where an on-site investigation is deemed necessary to avoid a potential accident.
- In connection with the investigation upon occurrence of an accident or incident, NSSC Notice 2013-50 (Regulation on Reporting and Public Announcement of Accidents and Incidents for Nuclear Utilization Facilities) prescribes that, if it is a reportable event, the licensee shall either submit a written report with the following information or verbally report it: an overview of the event with specific details, the result of a safety assessment, root causes and corrective measures, lessons learned from the event, etc. If accidents or incidents take place that are reportable, inspection by regulatory body might be performed.

# Reactive Inspection

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- In addition, a special inspection is occasionally carried out when deemed necessary to address an important safety concern, a public concern or a potential incident. For instance, in 2012, in the run up to the 2nd Nuclear Security Summit Talk held in Seoul, a special safety on-site inspection on status on radiation source management was conducted for 150 large-scaled organizations that have high risk of radiation sources as a preventive measure of radioactivity terrorism.

# Unannounced Inspection

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- Periodic or random inspections generally are carried out in a form of announced inspection, except for the cases that are deemed necessary, **some may be unannounced.**
- For instance, unannounced inspection is performed for radiographic tests area of mobile-use in ordinary times in 2014. This unannounced inspection result from recently strengthened regulations on non-destructive test area.

# Process of Inspections (Summary)

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- Periodic inspection,
  - KINS Regulatory Inspection Project Manager(PM) presides the inspection
  - The staff of professional department of KINS perform the inspection
  - General process: Establishment of inspection plan by the PM → Approval by the Commission → Notification of annual inspection plan to licensees → Pre-inspection meeting → Implementation of inspection → Post-inspection meeting → Notification of inspection result to licensee → Report the inspection results to the Commission monthly by PM

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# Process of Inspections (Summary)

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- ❑ Random inspection (or Special inspection)
- ❑ KINS Regulatory Inspection Project Manager(PM) presides the inspection
- ❑ Mostly, the staff of professional department of KINS perform the inspection
- ❑ General Process : Request of random inspection to KINS by the NSSC → Notification of inspection plan to licensee (in the case of announced inspection) → Pre-inspection meeting → Implementation of inspection → Post-inspection meeting → Notification of inspection result to licensee → Monthly report of the inspection results to the Commission by PM

# Some Pictures; Pre-inspection meeting

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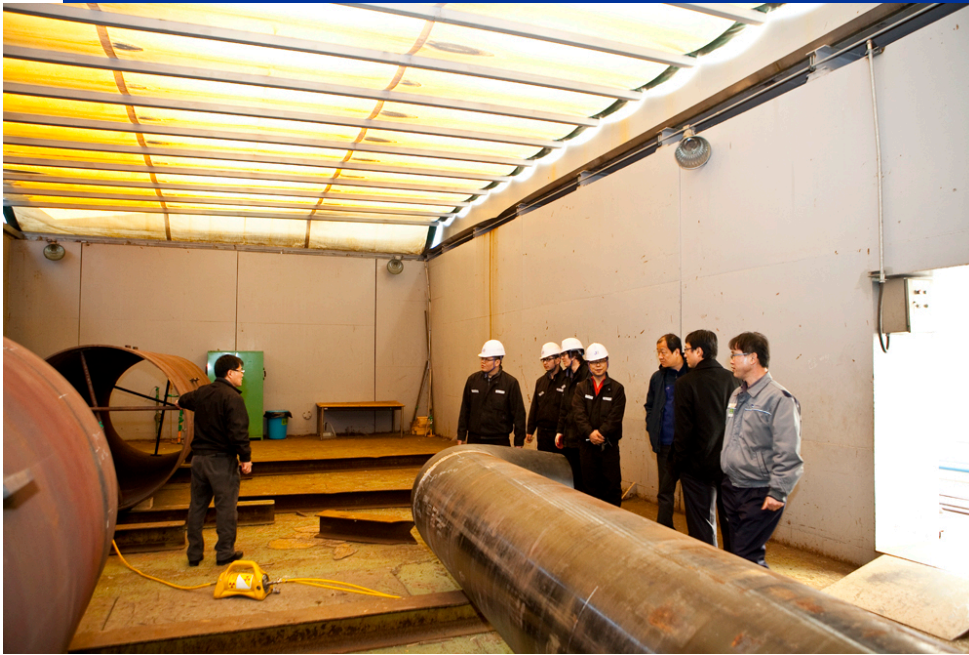


# Some Pictures; Interview and records check





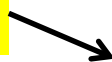
# Some Pictures; Field test



Non Destructive Test  
(NDT) Company  
Special Inspection



Inspection on Hospital





# Always we keep watching our Atomic Power



# Thank You

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