



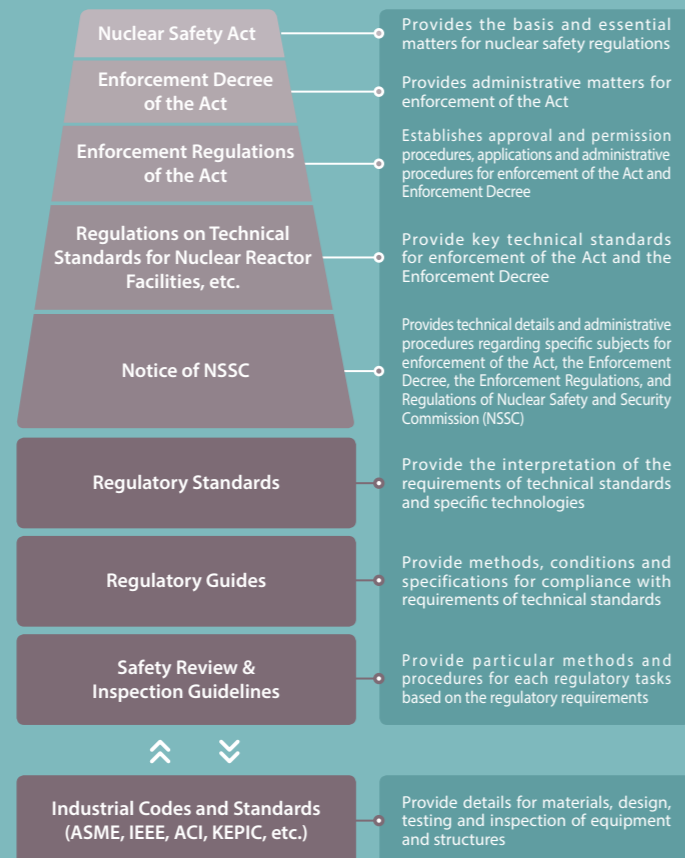
Scan the QR code above to view KINS PR video



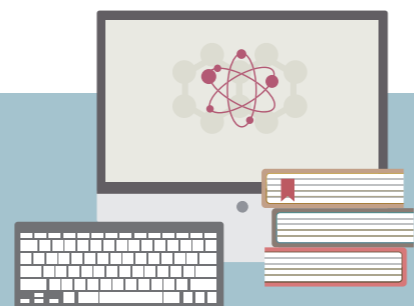
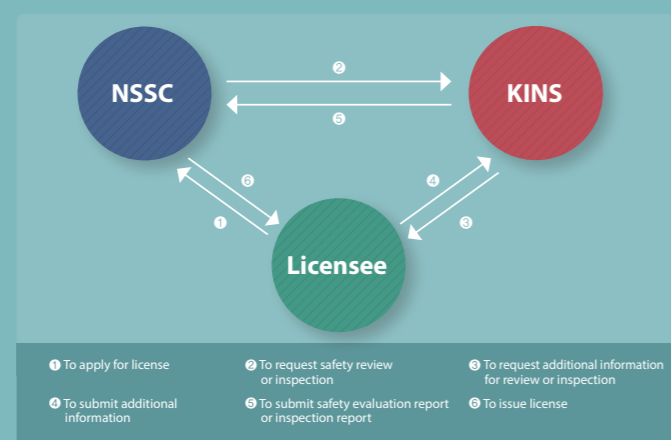
KOREA INSTITUTE OF NUCLEAR SAFETY

Legal Framework & Regulatory Process

Legal Framework for Nuclear Safety »



Regulatory Process for Nuclear Safety »



KOREA INSTITUTE OF NUCLEAR SAFETY

About KINS

Mission »

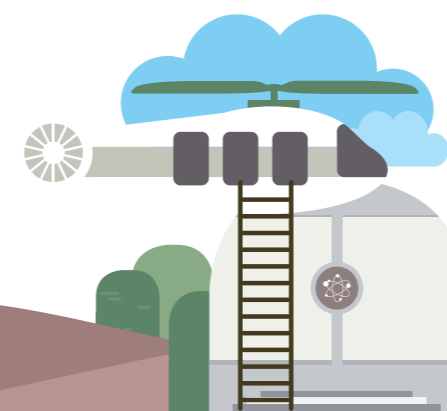
To protect the public from radiation disasters arising from the production and utilization of nuclear energy and to contribute to public safety and environmental conservation

Vision »



Main Activities »

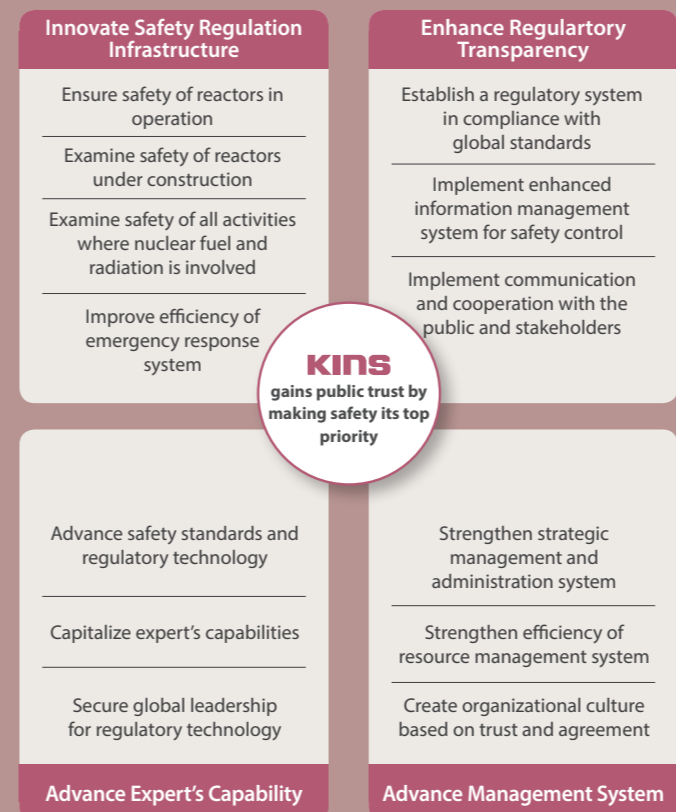
- Reactor Safety Regulation
- Radiation Safety Regulation
- Emergency Preparedness and Response
- Safety R&D and Specialization in Regulatory Oversight
- International Cooperation and Public Trust



KOREA INSTITUTE OF NUCLEAR SAFETY

Management Goals

Management Goal Framework »

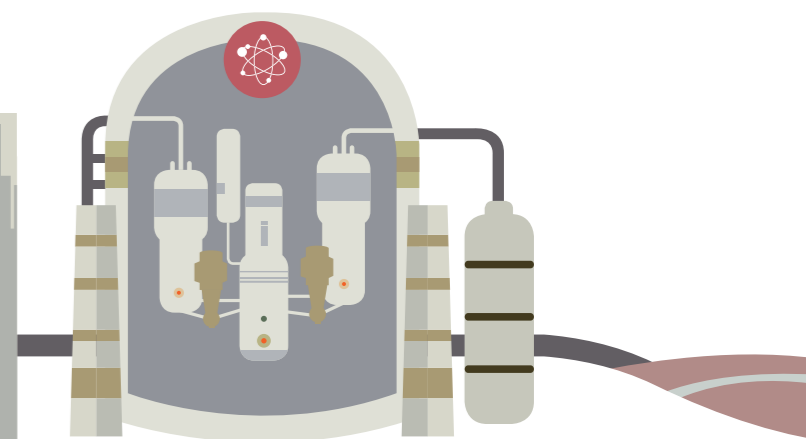


KOREA INSTITUTE OF NUCLEAR SAFETY

Safety Regulation Systems

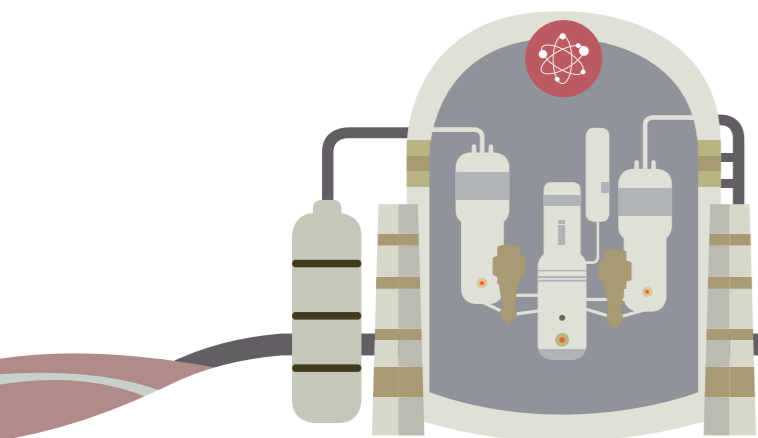
IT-based Regulation Support Systems »

- Integrated Environmental Radiation Monitoring Network (IERNet)**
<http://iernet.kins.re.kr>
A nationwide environmental radiation monitoring system to measure and evaluate data on air gamma dose rates on a real-time basis
- Environmental Radiation Information App (eRAD@NOW)**
A smart phone application to inform of a nationwide environmental radiation monitoring results on a real-time basis
- Operational Performance Information System for Nuclear Power Plant (OPIS)**
<http://opis.kins.re.kr>
A comprehensive database system to provide information on the latest domestic and foreign NPP statuses in conjunction with the Nuclear Event Evaluation Database (NEED), the International Nuclear Event Scale (INES) and Safety Performance Indicators (SPIs)
- Radiation Source Location Tracking System (RADLOT)**
<http://tracking.kins.re.kr>
A real-time tracking system to monitor radioactive sources through GPS satellite signals and mobile telecommunication networks
- Radiation Safety Information System (RASIS)**
<http://rasis.kins.re.kr>
A comprehensive radiation management system to provide information on regulatory authority issues pertaining to nearly 8,000 licensees and to manage the individual life cycles of radioactive sources
- Waste Comprehensive Information Database (WACID)**
<http://wacid.kins.re.kr>
A comprehensive database system to collect and manage information on safety regulations pertaining to radioactive waste and spent fuels



KOREA INSTITUTE OF NUCLEAR SAFETY

KINS
Independence + Transparency + Excellence + Responsibility



KOREA INSTITUTE OF NUCLEAR SAFETY

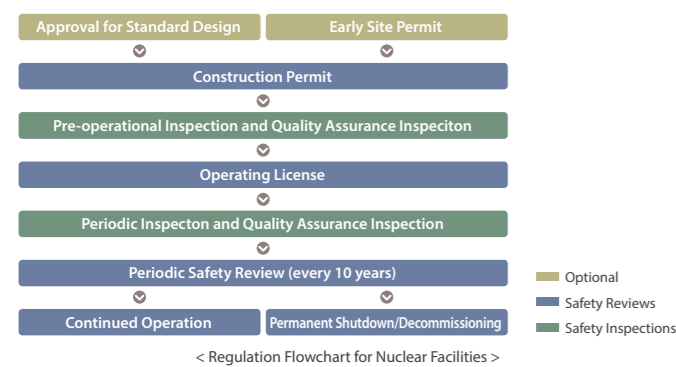
Reactor Safety Regulations

KINS conducts regulatory activities for safety of all nuclear facilities under construction and in operation at all stages from siting through decommissioning.

Key Tasks »

Safety Reviews Regulatory activities to evaluate that application documents for permit, license, or license amendment meet the related Acts, and Codes & Standards

Safety Inspections Regulatory activities to ensure that authorized and licensed structures, systems, and components are constructed, and operated in accordance with the related Acts, and Codes & Standards



OPIS(Operational Performance Information System for Nuclear Power Plant) <http://opis.kins.re.kr>



KOREA INSTITUTE OF NUCLEAR SAFETY

Radiation Safety Regulations

KINS protects public and environment against radiation risk through a comprehensive safety management of radiation sources and facilities, radioactive wastes, radiation workers, and radiation in daily life environment.

Key Tasks »

Safety Management of Radiation Sources Regulatory activities including technical evaluation, measurement, and site inspections to confirm safe radiation handling in compliance with the regulatory requirements established by the Act

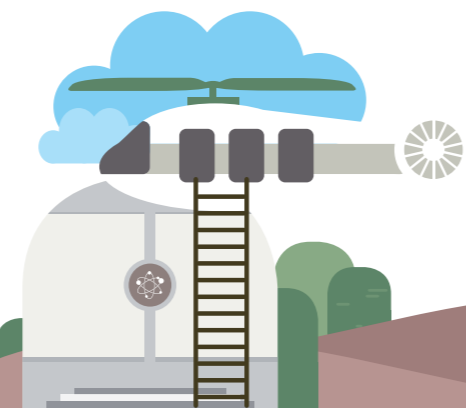
- Safety Regulations Pertaining to Radioisotopes
- Safety Regulations Pertaining to Radiation Sources
- Safety Regulation for Transport of Radioactive Materials
- Safety Regulations Pertaining to Radioactive Wastes
- Assessment of Radiation Exposure Doses

RASIS(Radiation Safety Information System) <http://rasis.kins.re.kr>

Safety Management of Radiation in Natural Environment Regulatory activities to ensure safe management of radiation in natural environment, involving radiation contact in daily life and provision of safety guidelines and management strategies

- Safety Management of Raw Materials and Residues
- Radiation Monitoring of Imported Materials and Recycled Metal Scrap

CISRAN(Comprehensive Information System on Radiation in the Natural environment) <http://cisran.go.kr>



KOREA INSTITUTE OF NUCLEAR SAFETY

Emergency Preparedness & Response

KINS supervises monitoring of environmental radiation/radioactivity levels at normal time and provides technical advisory support according to national response system in case of radiation emergencies.

Key Tasks »

Monitoring of Environmental Radiation/Radioactivity

Evaluations of Environmental Radiation/Radioactivity Levels near Nuclear Facilities

- ▶ Evaluation of environmental radiation/radioactivity levels and assessments of exposure doses for residents near nuclear facilities

Nationwide Monitoring of Environmental Radiation/Radioactivity Levels

- ▶ Monitoring of nationwide environmental radiation level fluctuations and releases of information through IERNet (Integrated Environmental Radiation Monitoring Network) and eRAD@NOW (Environmental Radiation Information App)

Radiological Emergency Preparedness

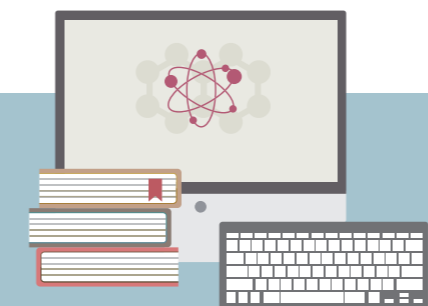
Response to Radiation Emergencies and Terrorist Attacks

- ▶ Establishment of RETAC (Radiation Emergency Technical Advisory Center) to provide technical advice for disaster response
- ▶ Response to accidents on nuclear and radiation facilities, and terrorist attacks targeting key national and public facilities

Radiological Emergency Exercises and Reviews

- ▶ Review of radiation emergency response plan of NPPs and evaluation of the operator's radiation emergency response facilities
- ▶ Joint exercises involving government representatives, NPP operators, local authorities and residents
- ▶ Assessment of radiation emergency response exercise by NPP operators

IERNet(Integrated Environmental Radiation Monitoring Network) <http://iermet.kins.re.kr>



KOREA INSTITUTE OF NUCLEAR SAFETY

Safety Standards & Research

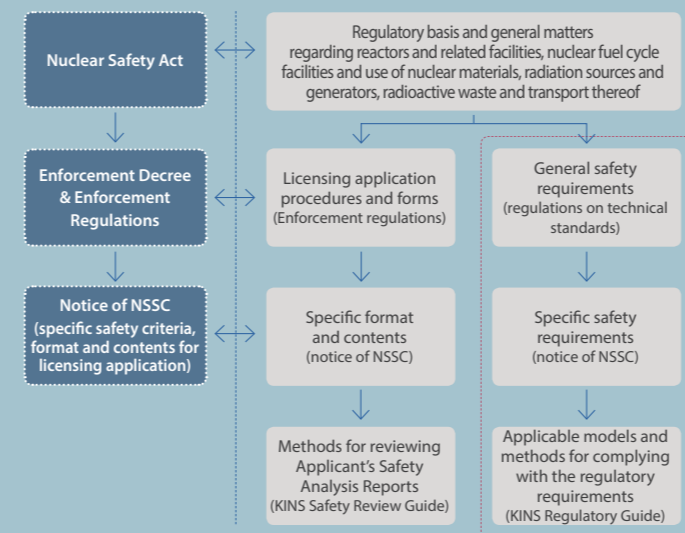
KINS conducts research to develop regulatory requirements and standards, resolve safety issues, and enhance technical capabilities of the regulatory staff.

Key Tasks »

Research on Reactor Safety Research on reactor safety to advance regulatory technology for thermal hydraulics, severe accidents, Gen-IV reactors, mechanical and structural integrity, and for reinforcing capabilities of the regulatory staff members

Research on Radiation Safety Research on radiation safety to advance regulatory technology in the areas of radiation protection, radiation usage, environmental radiation, and radioactive waste, and for reinforcing capabilities of the regulatory staff members

Development of Safety Standards Development of safety standards, including regulatory criteria and guidelines for safety reviews and inspection based on research results on domestic and foreign safety issues and consideration harmonization with international safety standards



< Regulations and Safety Standards for Nuclear Safety >



KOREA INSTITUTE OF NUCLEAR SAFETY

International Cooperation

KINS implements regulatory cooperation relying on the following basic principles

Basic Principles »

- ▶ Ensuring the highest level of safety for domestic nuclear facilities by acquiring and adopting advanced up-to-date technology and sharing knowledge and experience
- ▶ Improving KINS's regulatory capabilities through regulatory cooperation with advanced organizations dealing with nuclear safety
- ▶ Strengthening the Global Nuclear Safety Regime through regulatory cooperation with international organizations and neighboring countries
- ▶ Fulfilling international obligations as a technical expert organization for nuclear safety regulation through provision of technology to the countries embarking on nuclear power programs

Framework »

- Global Nuclear Safety**
 - ▶ IAEA, OECD/NEA, Nuclear embarking countries
 - ▶ Participating in committees and technical meetings of international organizations
 - ▶ Supporting regulatory infrastructure for nuclear embarking countries
- Regional Nuclear Safety**
 - ▶ Neighboring countries, Northeast Asia cooperation
 - ▶ Korea-China-Japan TRM, Bilateral and multilateral technical meetings
- National Nuclear Safety**
 - ▶ Advanced regulatory organizations, Joint committee on nuclear safety
 - ▶ Technical meetings, Joint researches, Exchange of experts

Expansion of International Cooperation Activities and Infrastructure

- ▶ Providing systematic process of International Cooperation
- ▶ Playing the leading role in setting the agenda and establishing the data base for International Cooperation activities
 - : Agenda, Results, Lists of experts, Status of follow-up actions

Organizations and Countries in Cooperation »

International Organizations

IAEA (International Atomic Energy Agency)
 OECD / NEA (Organization for Economic Cooperation and Development / Nuclear Energy Agency)
 AAEA (Arab Atomic Energy Agency)
 FNRBA (The Forum of Nuclear Regulatory Bodies in Africa)
 TRM (Northeast Asian Top Regulators Meeting on Nuclear Safety)

Leading Regulatory Organizations

	Canada	CNSC (Canadian Nuclear Safety Commission)
	China	CIRP (China Institute for Radiation Protection) NSC (Nuclear and Radiation Safety Center) NNERTAC (National Nuclear Emergency Response Technical Advisory Center) RMTC (Radiation Monitoring Technical Center)
	Finland	STUK (Radiation and Nuclear Safety Authority)
	France	IRSN (Institute of Radiation Protection and Nuclear Safety)
	Germany	GRS (Gesellschaft für Anlagen und Reaktorsicherheit)
	Japan	JCAC (Japan Chemical Analysis Center) NIRS (National Institute of Radiological Sciences) NUSTEC (Nuclear Safety Technology Center)
	USA	NRC (Nuclear Regulatory Commission)

Nuclear Embarking Countries

	Indonesia	BAPETEN (Nuclear Energy Regulatory Agency)
	Jordan	EMRC (Jordan Energy and Minerals Regulatory Commission)
	South Africa	NNR (National Nuclear Regulator)
	UAE	FANR(Federal Authority for Nuclear Regulation) Khalifa University of Science, Technology and Reserch VARANS (Vietnam Agency for Radiation and Nuclear Safety) University of Dalat
	Vietnam	

KOREA INSTITUTE OF NUCLEAR SAFETY

International Nuclear Safety School (INSS)

KINS has established INSS (International Nuclear Safety School), the first nuclear safety educational organization in Asia in corporation with the IAEA in 2008. The INSS offers various curriculums for training nuclear and radiation experts in Korea and from abroad.

Vision »

World's Best Organization for Education and Training on Nuclear and Radiation Safety

Strategic Roles »

- Foster leadership in organizational management
- Cultivate expertise and competency with regard to safety regulations
- Support the development of nuclear safety infrastructure in other countries
- Help public to understand safety regulations

Target »

- KINS Staff
- Foreign Regulators
- General Public

Curriculum »

In-house Education and Training Program

- ▶ Training course to cultivate expertise and competency of KINS staff members
- ▶ Training course to enhance the leadership and ethics of KINS staff members

International Education and Training Program

- ▶ Professional courses to train foreign regulators in collaboration with international organizations such as the IAEA through cooperation agreements.
- ▶ Tailored courses to train Member States of the Asian Nuclear Safety Network (ANSN), the Arab Network of Nuclear Regulators (ANNuR), and the Forum of Nuclear Regulatory Bodies in Africa (FNRBA)

KINS-KAIST International Nuclear and Radiation Safety Master's Degree Program

- ▶ International Nuclear and Radiation Safety Master's Degree Program in cooperation with the Korea Advanced Institute of Science and Technology (KAIST)

Educational Program for the Public

- ▶ Educational courses to provide the public with hands-on experience on nuclear and radiation safety regulations

International Nuclear Safety School (INSS) <http://inss.kins.re.kr>