



Ensuring Nuclear Safety and Security

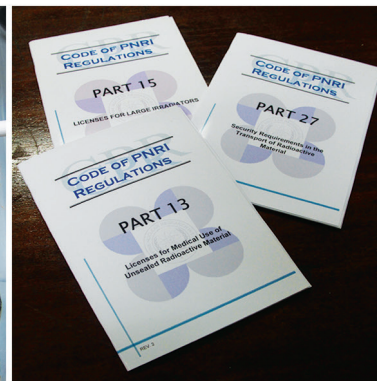
Regulatory Oversight

As the Philippines' nuclear regulatory body, the Philippine Nuclear Research Institute (PNRI) formulates rules and regulations on the safety and security of atomic energy facilities and radioactive materials. Through PNRI, the government complies with its commitments under the Safeguards Agreement and Additional Protocol with the IAEA, as well as other obligations under international treaties and instruments.

The PNRI grants licenses for authorization to use, possess, produce, store, sell or import radioactive materials while also inspecting hundreds of licensees every year from the industrial, commercial, medical, educational, and training sectors.



PNRI regulator inspecting a facility of a licensee



Copies of the Code of PNRI Regulations

Nuclear Security



Radiation Portal Monitors

PNRI has engaged in a joint cooperation with the United States Department of Energy for the Megaports Initiative wherein Radiation Portal Monitor systems were installed at the ports of Manila and Cebu to detect, deter and prevent illicit trafficking of nuclear and other radioactive materials.

The Philippines actively engages in multilateral (IAEA, EU, FNCA) and bilateral (USA, Canada) cooperation in nuclear security. The IAEA assists the Philippines under the Integrated Nuclear Security Support Plan (INSSP). The PNRI is also the lead agency in the Philippines in support of the Global Threat Reduction Initiative (GTRI) to address the issue of nuclear security around the world and reduce the threat of nuclear terrorism.

Radiological Emergency Preparedness and Response Program

The PNRI leads the development and update of the National Radiological Emergency Preparedness and Response Plan (RADPLAN) which was put to the test during the 2011 Fukushima Dai-ichi Nuclear Power Plant accident.

The RADPLAN aims to establish an organized response capability for a timely and coordinated action of Philippine authorities in the event of a radiation-related incident or radiological emergency.

Committing to a ready response to radiation emergencies, PNRI has designated Radiological Emergency Monitoring and Control (REMCON) Teams on duty 24/7 for a 15-day cycle.



Responders conduct an exercise on radiological emergency preparedness and response

Radiation Protection

PNRI provides radiation protection services to workers occupationally exposed to ionizing radiation and to authorized users of radioactive materials and nuclear instruments. The services are rendered to ensure that the workers as well as the public are not unnecessarily exposed to ionizing radiation.

The PNRI provides personal dosimeters through thermoluminescent dosimeters (TLD) and the newer optically stimulated luminescence (OSL) dosimeters to thousands of occupationally-exposed workers. It also performs radiation control services such as area/air monitoring and leak testing of sealed radioactive sources to make sure that work areas and operation conditions of radiation-emitting devices in authorized facilities are in accordance with national radiation safety standards. Through its Secondary Standards Dosimetry Laboratory, PNRI also calibrates of radiation monitoring instruments and activity meters as well as brachytherapy and teletherapy machines in hospitals.



Calibration of a survey meter in the Secondary Standards Dosimetry Laboratory

Radioactive Waste Management



The PNRI Interim Radioactive Waste Storage Facility

PNRI maintains and operates the Philippines' Radioactive Waste Management Center, a centralized interim storage facility to ensure safe and secure storage of radioactive waste and spent or unused sealed sources.

The project on conditioning Spent High Activity Radioactive Sources (SHARS), which was implemented and concluded in cooperation with the South African Nuclear Energy Corporation (NECSA) and the IAEA, ensures safe and secure management of SHARS in a long-term storage container, reducing the radiation level at the surface acceptable for long storage and eliminating the risk of overexposure to the public as well as possible covert action.

PNRI is evaluating a site for the final disposal of low and intermediate level wastes. The site evaluation is being undertaken with other government agencies. The strategy adopted from the evaluation is to co-locate a near surface facility with the IAEA-recommended BOSS (Borehole Disposal of Disused Sealed Sources) facility.

An assembled mobile hot cell for conditioning Spent High Activity Radioactive Sources



Nuclear Training

The PNRI Nuclear Training Center conducts training courses for various groups and sectors for capability building in the field of nuclear science and technology. The training courses conducted are on the applications of nuclear science and technology and on radiation and nuclear safety.

PNRI also conducts training courses on nondestructive testing (NDT) in cooperation with the Philippine Society for Nondestructive Testing. The PNRI Nuclear Training Center has been accredited by Lufthansa Technik Philippines as an NDT training service provider per European Standard EN 4179 (Aerospace series – qualification and approval of personnel for NDT). The accreditation is a milestone in the training of NDT personnel.



A Follow-up Training Course on Environmental Protection and Management at PNRI