LEGAL FRAMEWORK FOR NUCLEAR SAFETY

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STATUS OF THE INTERNATIONAL NUCLEAR INSTRUMENTS IN THE PHILIPPINES

TREATIES AND CONVENTIONS

The Philippines is a Party to the following:

- **Treaty on the Non-proliferation of Nuclear Weapons (NPT)– In force: 5 October 1972**
- **Southeast Asia Nuclear Weapon Free Zone Treaty (SEANWFZ)– 19 March 2001**
- **Convention on the Physical Protection of Nuclear Material (CPPNM) – 8 February 1987**
- **Convention on Assistance in the Case of Nuclear Accident or Radiological Emergency – 5 June 1997**
- **Convention on Early Notification of a Nuclear Accident – 5 June 1997**
- **Vienna Convention on Civil Liability for Nuclear Damage – 12 November 1977**

AGREEMENTS WITH THE IAEA

- Comprehensive Safeguards Agreement in connection with NPT - 16 October 1974

- Additional Protocol to Safeguards Agreement – 26 February 2010

CONVENTIONS THAT THE PHILIPPINES SIGNED SUBJECT FOR RATIFICATION

- **Amendment to the CPPNM**
- **Convention on Nuclear Safety - 14 October 1994**
- **Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management – 10 March 1998**
- **Convention on the Supplementary Compensation for Nuclear Damage – 10 March 1998**
- **International Convention on the Suppression of Acts of Nuclear Terrorism – 15 September 2005**
- **Protocol to Amend the Vienna Convention on Civil Liability for Nuclear Damage – 10 March 1998**
- **Joint Protocol Relating to the Application of Vienna Convention and Paris Convention – 21 September 1998**

IMPLEMENTATION OF CODE OF CONDUCT

The Philippine Nuclear Research Institute (PNRI) issued Administrative Order (AO) No. 02, Series of 2006, ADOPTION OF IAEA CODE OF CONDUCT ON THE SAFETY AND SECURITY OF RADIOACTIVE SOURCES AND IAEA GUIDANCE ON THE IMPORT AND EXPORT OF RADIOACTIVE SOURCES pursuant to the provisions of Section 4 of Republic Act No. 5207, as amended, adopting the provisions of the IAEA Code of Conduct on the Safety and Security of Radioactive Sources in order to be properly guided in its compliance with the IAEA Code of Conduct. The PNRI likewise conform to the provisions of the IAEA Guidance on the Import and Export of Radioactive Sources as far as practicable. The AO was approved and published in the Official Gazette in June 26, 2000.

REGULATORY AUTHORITIES FOR THE APPLICATION OF RADIATION

Philippine Nuclear Research Institute

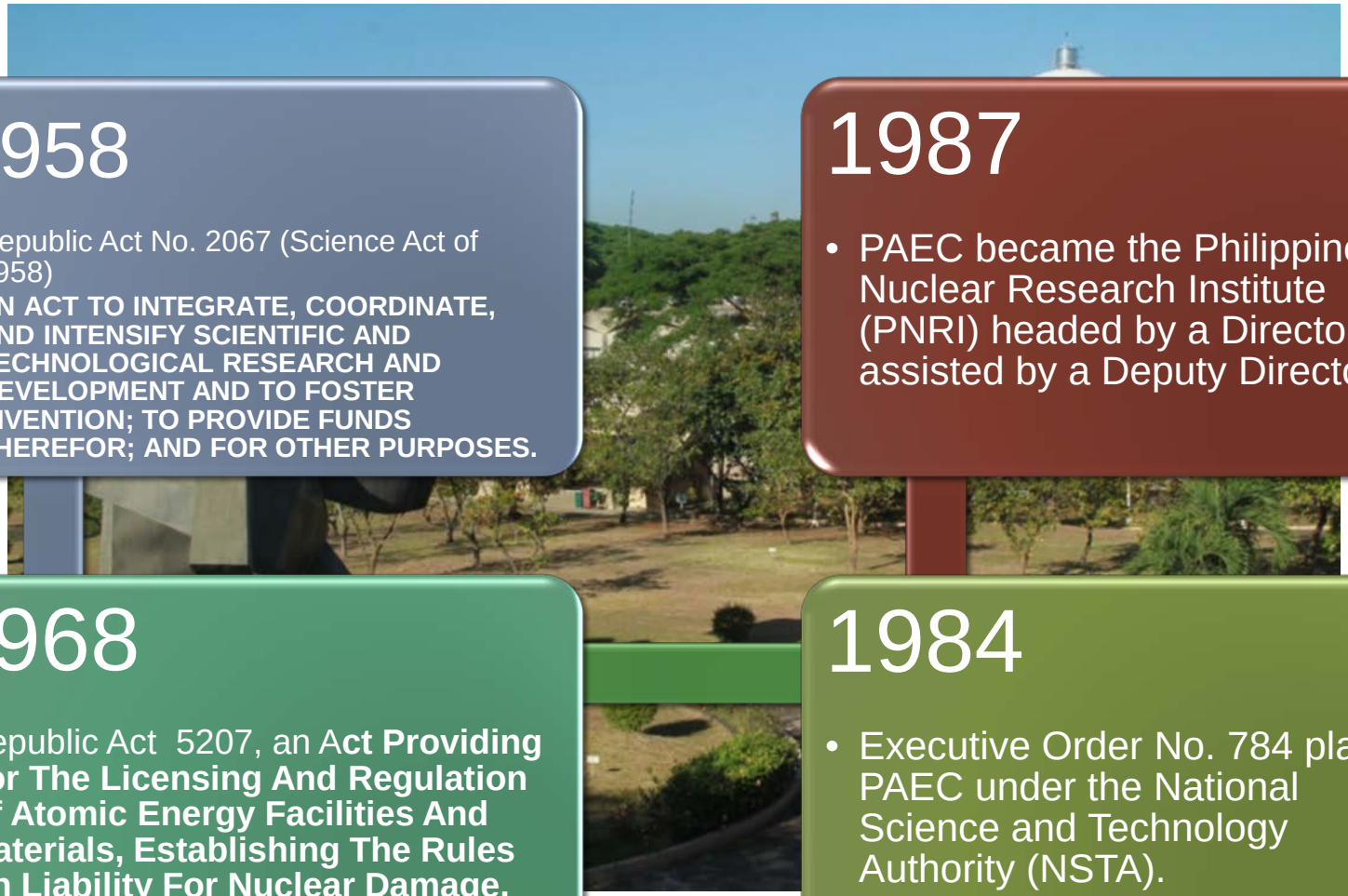
- Under the Department of Science and Technology (DOST)
- Radioactive materials and atomic energy facilities, including medical facilities

Center for Device Regulation, Radiation Health and Research

- Under the Department of Health, Food and Drug Administration (DOH-FDA)
- Electrically-generated ionizing radiation, including non-ionizing radiation

Creates a potential for differing regulatory policies and safety standards governing activities involving the use of ionizing radiation

PHILIPPINE NUCLEAR RESEARCH INSTITUTE



1958

- Republic Act No. 2067 (Science Act of 1958)
- **AN ACT TO INTEGRATE, COORDINATE, AND INTENSIFY SCIENTIFIC AND TECHNOLOGICAL RESEARCH AND DEVELOPMENT AND TO FOSTER INVENTION; TO PROVIDE FUNDS THEREFOR; AND FOR OTHER PURPOSES.**

1968

- Republic Act 5207, an A**ct Providing For The Licensing And Regulation Of Atomic Energy Facilities And Materials, Establishing The Rules On Liability For Nuclear Damage, And For Other Purposes.**

1987

- PAEC became the Philippine Nuclear Research Institute (PNRI) headed by a Director and assisted by a Deputy Director

1984

- Executive Order No. 784 placed PAEC under the National Science and Technology Authority (NSTA).

PNRI MANDATE

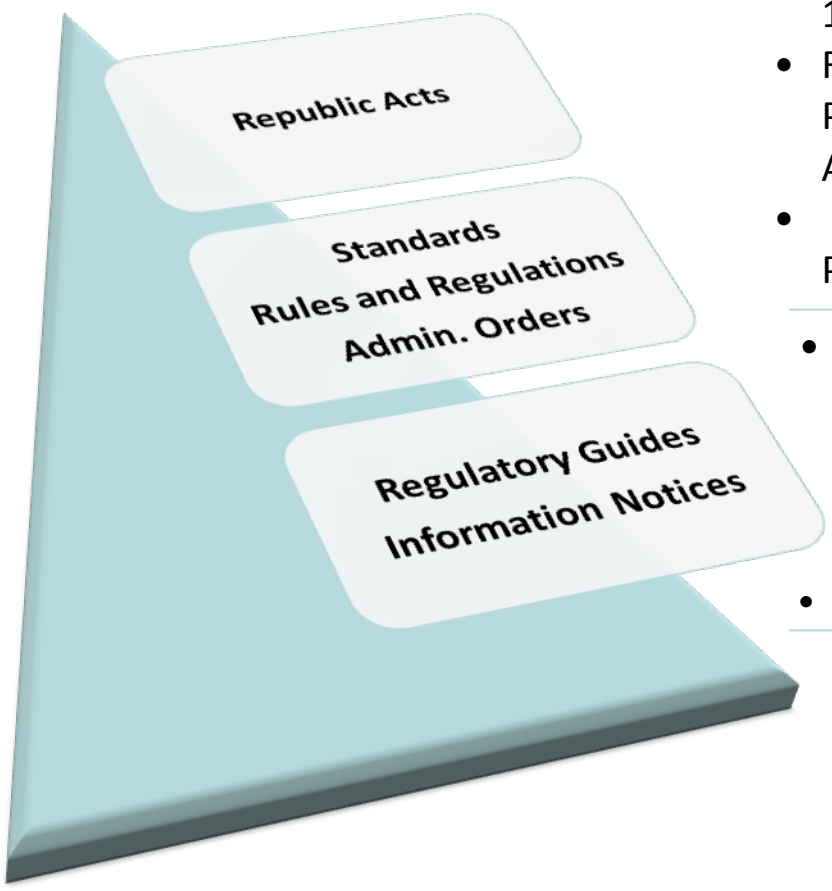
Conduct research and development on the applications of radiation and nuclear materials, processes and techniques;

Undertake the transfer of research results to end-users including technical extension and training services;

Operate and maintain nuclear research reactors and other radiation facilities;

License and regulate activities relative to production, transfer and utilization of nuclear and radioactive substances

LEGISLATIVE FRAMEWORK



- Republic Act 2067 known as the Science Act of 1958, created PAEC
- Republic Act 5207 of 1968 known as An Act Providing for the Licensing and Regulation of Atomic Energy Facilities and Materials
- Executive Order 128 of 1987 reorganizes PAEC to PNRI

- Code of PNRI Regulations consists of Parts 0-27; covers radiation protection, transport, safety and security, fees and charges, waste and practice - specific regulations
- Administrative Orders

- Regulatory guides; information bulletins and notices; incidents and lessons learned

REGULATED SOURCES OF IONIZING RADIATION IN THE PHILIPPINES (as of March 2016)

Practices	No. of facilities and license holders	Types/No. of Sources	Regulatory Body
Medical:			
Linear accelerators	33*	40*	CDRHRR
Teletherapy (gamma)	7	199 Co-60 sources (192 Co-60 sources are for gamma knife)	PNRI
Brachytherapy Manual	7	76 Cs-137 sources I-125 seeds for permanent implants	PNRI
Brachytherapy Remote control	11	10 Ir-192 sources 1 Co-60 source	PNRI
Blood Irradiator	3	3 Cs-137 sources	PNRI
Nuclear Medicine	52	Unsealed sources for therapy & diagnosis: I-131; Tl-201; Tc-99m; Ga-167; Sr-89; Y-90; I-125 (RIA kits)	PNRI
Medical Cyclotron	2	Production of F-18	PNRI

Source:

1. *Licensing, Review, and Evaluation Section (LRES), Nuclear Regulatory Division (NRD), Philippine Nuclear Research Institute (PNRI), Department of Science and Technology*
2. *Ms. Gladys Cabrera, Center for Device Regulations, Radiation Health and Research (CDRRHR), Food and Drug Administration (FDA), Department of Health*

REGULATED SOURCES OF IONIZING RADIATION IN THE PHILIPPINES (as of March 2016)

Practices	No. of facilities/license holders	Types/No. of Sources	Regulatory Body
Gamma industrial radiography	27	97 Ir-192 sources 2 Co-60 sources 3 Se-75 sources (102 devices)	PNRI
X-ray industrial radiography	266	710	CDRHRR
Industrial (nuclear) gauging devices		Am-241:Be & Cs-137, Am-241, Cf-252, Cs-137, Cs-137, Co-60, Kr-85, Am-241; Pm-147; Sr-90; Kr-85, Sr-90, Fe-55, Ni-63, Po-210 & Pu-238, Kr-85 gas, Po-210; Th-232, etc	PNRI
Research and education	31	H-3, Ni-63, Am-241, C-14, Cs-137, Co-60, Fe-55, Sr-90, Tl-204, I-125, Fe-59, Ba-133, Am-241:Be-7, Cl-36, P-32, P-33, S-35, U-238, Ge-68	PNRI

REGULATED SOURCES OF IONIZING RADIATION IN THE PHILIPPINES (as of March 2016)

Practices	No. of facilities/license holders	Types/No. of Sources	Regulatory Body
X-ray fluorescence spectroscopy	31	31	CDRHRR
Security equipment (e.g. baggage x-ray, container inspection)	110	219	CDRHRR
Dental radiology (alone)	146	176	CDRHRR
Diagnostic and interventional radiology	6,123	6,821	CDRHRR
X-ray Diffraction Devices	42	42	CDRHRR

REGULATED SOURCES OF IONIZING RADIATION IN THE PHILIPPINES (as of March 2016)

Practices PNRI Facilities	No. of facilities/license holders	Types/No. of Sources	Regulatory Body
Co-60 multi-purpose irradiation facility	**1**	Co-60 pencils (45 units)	PNRI internal regulation
Radioactive waste management facility	**1**	Various disused/spent radioactive sources	PNRI internal regulation
Electron Beam Facility	**1**	Specifications: Energy: 1 - 2.5 MeV; Beam current: Maximum 50 mA; Beam power: Maximum 100 kW	CDRHRR
Philippine Research Reactor 1 (shutdown)	**1**	115 slightly irradiated (General Atomics); 15 fresh (General Atomics) TRIGA fuel rods g; 4 fission chamber neutron detectors containing: Total U – 11.65 g, U-235-10.4 g	PNRI internal regulation
Technetium-99m Generator Production Facility	1	Calibration sources (Cs-137; Ba-133; various radionuclides below exempt level	PNRI internal regulation
Secondary Standard Dosimetry Laboratory	1	Cs-137, Co-60, Sr-90, Ba-133, Co-57, Am-Be-241	PNRI internal regulation
Nuclear Materials Research Laboratory	1	Am-241, Cs-137, U, Th, K pad, U pad, & Th pad	PNRI internal regulation

Current Legal Framework

- The legislative framework for control of ionizing radiation and ionizing radiation emitted from electrical devices in the country needs to be updated and rationalized; the primary legal instruments are outdated.

- The primary legal instruments mandated the PNRI with the dual function of promoting and regulating the peaceful applications of nuclear energy.

WORKING TOWARDS THE ENHANCEMENT OF THE LEGAL FRAMEWORK

2017

AN ACT

PROVIDING FOR A COMPREHENSIVE NUCLEAR REGULATORY FRAMEWORK, CREATING FOR THE PURPOSE, THE PHILIPPINE NUCLEAR REGULATORY COMMISSION, AND APPROPRIATING FUNDS THEREFOR

Also known as the

"Comprehensive Nuclear Regulation Act"

2017

CURRENT STATUS:

Approved by the Joint Committee of Reorganization and Science and Technology (S&T) last Nov. 11, 2017

ENHANCING THE LEGAL FRAMEWORK

- Establish an **independent** regulatory authority
- Comprehensive legislation establishing a regulatory body and covering all areas of nuclear law: **safety**, **security**, **safeguards** and **liability for nuclear damage**.
- **International commitments** of the Republic of the Philippines need to be reflected in national legislation.
- Legal framework should also include the underlying **environmental protection**, commercial and industrial aspects.

THE COMPREHENSIVE NUCLEAR LAW IN THE CONGRESS

Salient Features

- Comprehensive **unified** national Nuclear Law for using ionizing radiation and ionizing radiation emitted from electrical/electronic devices
- Creates a **single** regulatory body, the Philippine Nuclear Regulatory Commission
- Provides **quasi-judicial powers** for effective enforcement
- Creates **Advisory Board** on Safety and Security of Facilities and Nuclear/Radioactive Materials
- Covers completely **administrative and technical** requirements of the facilities and activities to be regulated, consistent & compatible with international basic safety standards and best practices
- Addresses the **gaps and omissions** in the current legislative framework

THANK YOU!