

# Presentation 3.3

## **Management of training within an integrated management system (PNRI)**

Department of Science and Technology

**Philippine Nuclear Research Institute**

 [pnri.dost.gov.ph](http://pnri.dost.gov.ph)

 [/PNRIDOST](https://www.facebook.com/PNRIDOST)





**PHILIPPINE NUCLEAR RESEARCH INSTITUTE  
TECHNOLOGY DIFFUSION DIVISION**

# **Nuclear Training Center**

**Roel A. Loterina**

Head, Nuclear Training Center

Technology Diffusion Division

Philippine Nuclear Research Institute

[raloterina@pnri.dost.gov.ph](mailto:raloterina@pnri.dost.gov.ph)



Department of Science and Technology

**Philippine Nuclear Research Institute**

 [pnri.dost.gov.ph](http://pnri.dost.gov.ph)

 [/PNRIDOST](https://www.facebook.com/PNRIDOST)



# Nuclear Training Service Provider



Philippine Nuclear Research Institute  
Nuclear Training Center  
**PNRI NTC**

Nuclear Training Service Provider



# Introduction

- Historical Background

**1959**

Philippine Atomic Energy Commission (PAEC), now the Philippine Nuclear Research Institute (PNRI) **Nuclear Training Institute** conducted the **1<sup>st</sup> Radioisotope Techniques Training Course (RTTC)** with 18 participants.

**April 30  
2004**

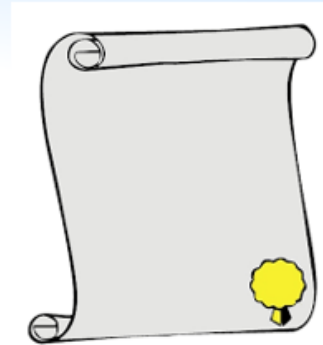
**Nuclear Training Unit (NTI)** was renamed and designated as **Nuclear Training Center (NTC)**, by virtue of PNRI Office Order No. 004.

**PNRI Organizational Chart**



# Introduction

- PNRI Nuclear Training Center offers professional certificate courses throughout the year.
- courses are designed to meet the regulatory requirements for radiation protection/safety officers (RPO/RSO) and authorized personnel of instruments and processes involving radioactive materials.
- NTC also offers specialized courses for scientists, researchers, professionals in the nuclear science and technology fields, faculty, students, and other stakeholders who are interested in learning about the peaceful applications of nuclear science in various fields.





# Introduction

- PNRI Nuclear Training Center implements training programmes, activities and services:



## Technical Training

- Conduct of nuclear training courses and seminars for non-power and power applications, as well as NDT
- participants come from government and private institutions nationwide, including PNRI staffs

## On-the-Job Training

- Graduate and undergraduate thesis/dissertation
- Radiation and nuclear related studies
- Under the mentorship of PNRI scientists, researchers and/or personnel

## Research/Thesis Advisorship

- Graduate and undergraduate thesis/dissertation
- Radiation and nuclear related studies
- Under the mentorship of PNRI scientists, researchers and/or personnel

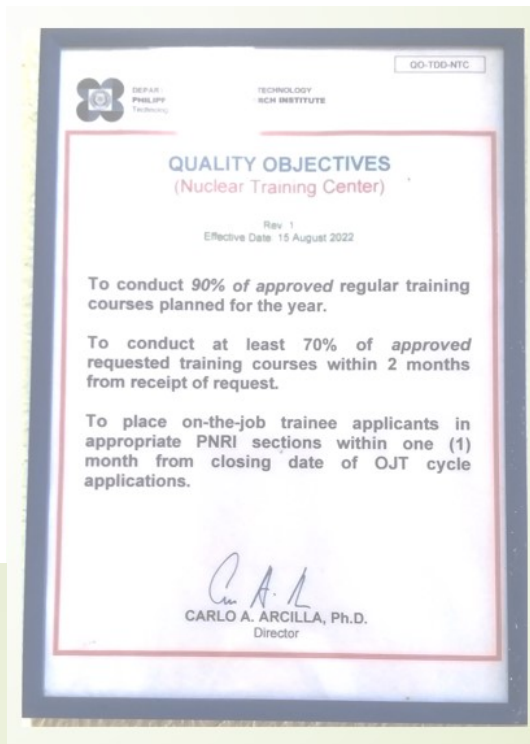
## Workshop/Seminars

- These include specialized subjects such as the safe transport of radioactive materials and emergency planning and preparedness.



# ISO 9001:2015 Certification

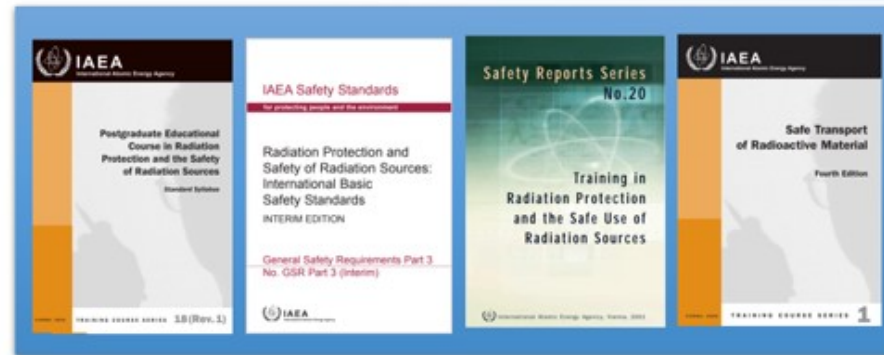
- **PNRI Nuclear Training Center** implements training services in conformance to **ISO 9001:2015 Certification**



# ISO 9001:2015 Certification

Training course syllabi are based on:

- IAEA standards
- Code of PNRI Regulations

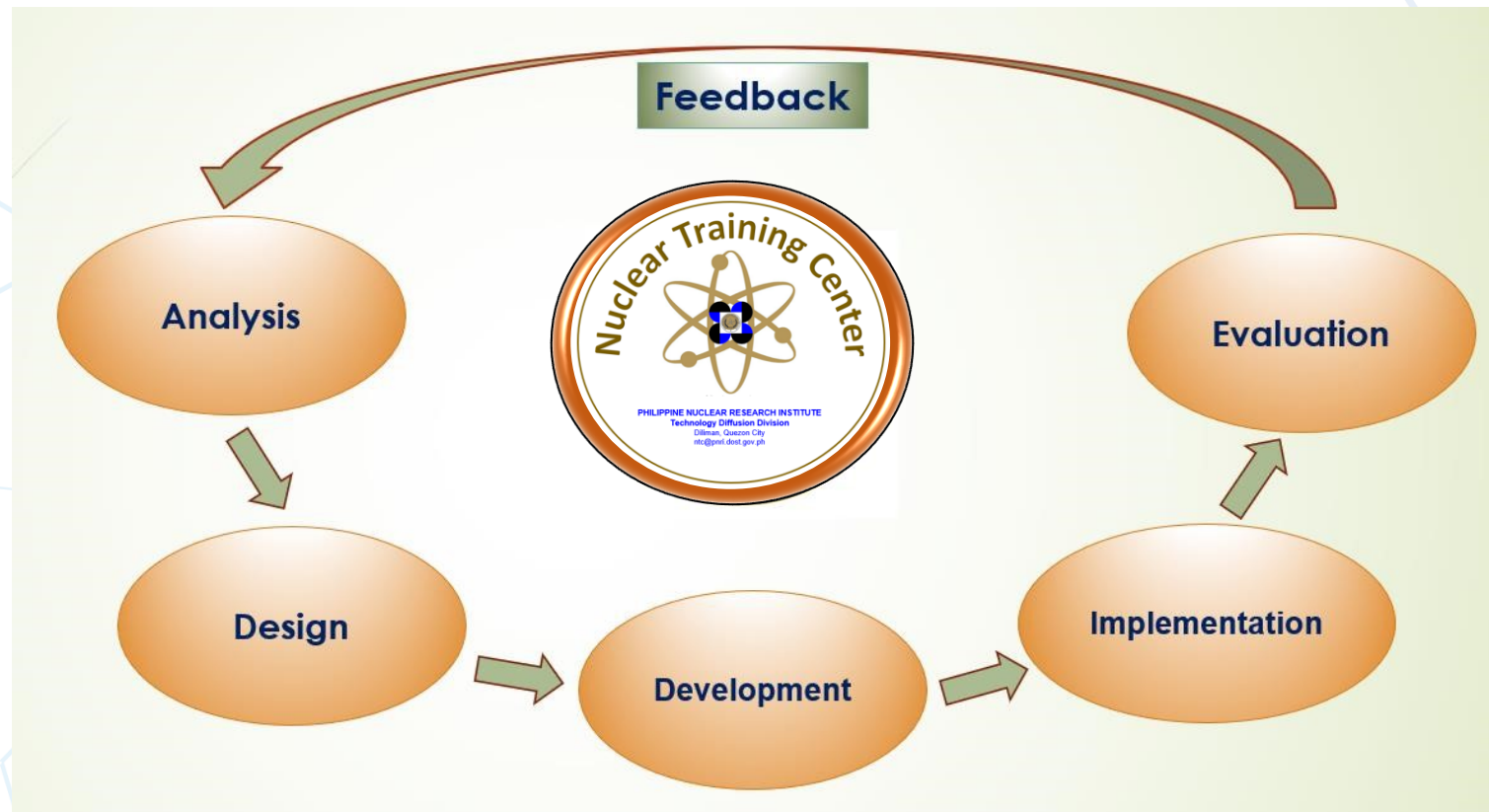




# Systematic Approach to Training

- NTC follows the **SAT process** in the implementation of its training programmes

ADDIE

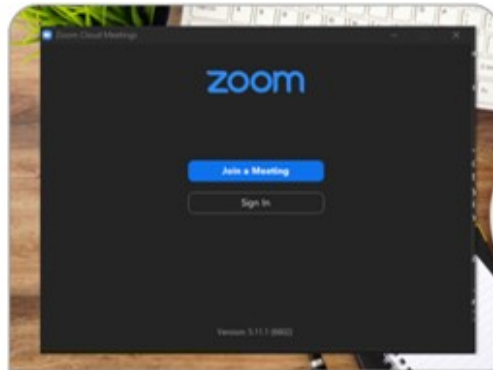


# Instructional design

- Training Strategy / Delivery



# Learning Management System



Zoom

Video Conferencing, Webinars,  
and more



Canvas

**NTC**  
**Learning**  
**Management System**



MS Teams

The hub for team collaboration in  
Microsoft 365



# NTC Lecturers

- Qualified lecturers have undergone specialized training abroad in various aspects of nuclear S & T and are experienced in their area of expertise.





# PNRI Facilities

- Laboratories and facilities of the different research units in PNRI are also made available to the trainees.
- For certain training courses, PNRI makes arrangements with other private companies, government agencies, universities, and hospitals for PNRI training participants to use their facilities.





# NTC Facilities

## NDT Laboratories Radiography Facility



### **RAM Authorization**

RPO

Radiation Safety  
Program

## NTC Radioisotope Laboratory



### **RAM Authorization**

RPO

Radiation Safety  
Program



# NTC Equipment



**Radioactive Sources**



**Dose Calibrator**



**Moisture Density Gauge**



**Radiation Monitoring Instruments**



# Technical Training Courses

## Radiation Safety

- designed to meet the regulatory requirements for radiation protection/safety officers (RPO/RSO) and authorized personnel of instruments and processes involving radioactive materials.



# Technical Training Courses

## Radiation Safety

Course Code	Course Title	Duration (days)
<b>RSC-ID</b>	Radiation Safety Course- <b>Sealed Sources in Industrial Devices</b>	5
<b>RSC-CL</b>	Radiation Safety Course – <b>Commercial Sale Involving Radioactive Materials and Low Activity Sources</b>	2
<b>RSRC</b>	Radiation Safety <b>Refresher Course</b>	3
<b>RSC-IR</b>	Radiation Safety Course – <b>Industrial Radiography</b>	10
<b>RSC-MR</b>	Radiation Safety Course – <b>Medical Use of Radioisotopes</b>	10





# Technical Training Courses

## Technology Diffusion

Course Code	Course Title	Duration (days)
<b>SNST</b>	Seminar in Nuclear Science for High School Science Teachers	15
<b>CNT</b>	Course on Nuclear Technology	15
<b>CMR</b>	Course on Medical Use of Radioisotopes	20
<b>CRT</b>	Course on Radioisotope Technology	15





# Technical Training Courses

## JAEA Follow-Up Training Courses



Reactor Engineering -1



Nuclear and Radiological Emergency  
Preparedness and response



Environmental Radioactivity  
Monitoring

Conducted in collaboration with the  
**Japan Atomic Energy Agency (JAEA)**



# Technical Training Courses

## NonDestructive Testing

- Designed to meet training requirements for accreditation and certification of qualified NDT practitioners in the Philippines
- Promotes the practice of NDT and upgrades the qualifications and professional standards of NDT personnel.
- The course syllabus follows the Philippine Standard PNS/ISO 9712 version 2006 based on the IAEA-TECDOC 628 on the “Qualification and Certification of NDT Personnel”, EN 4179, and NAS 410, ASNT SNTC-1A..
- Conducted in cooperation with the **Philippine Society for Nondestructive Testing Inc. (PSNT)**



# Technical Training Courses

## NonDestructive Testing



Course Code	Course Title	Level /s	Duration (hrs)
ET	Eddy Current Testing	1,2,3	80
IT	Infrared Thermographic Testing	1,2	40
SM	Surface Methods:	1,2,3	80
MT	Magnetic Particle Testing	1,2,3	40
PT	Penetrant Testing	1,2,3	40
RI	Radiographic Interpretation		40
RT	Radiographic Testing	1,2,3	80
UT	Ultrasonic Testing	1,2,3	80
WIC	Welding Inspector Course		40



# Technical Training Courses

## Annual Neutron School

- Established to:
  - develop the knowledge and expertise in nuclear technology of the next generation of nuclear scientists, and
  - promote nuclear research and careers to the academe especially to undergraduate students.

Year	Theme	No. of Participants
2012	Course on Basic Neutron Science	4
2013	"Annual Neutron School Alpha Year"	15
2014	"Neutron Flux Measurement of Three Neutron Sources"	11
2015	"Radiation Leak Measurement in a PNRI Nuclear Facility"	12
2016	"Applications of Neutrons Using Radioisotope Neutron Sources and Accelerator-based Neutron Source"	20
2017	Course on Basic Neutron Science	24





# Technical Training Courses

## New Courses ...



Course on Radiation Dosimetry,  
Calibration and Radiation Measurements  
for Secondary Standard Dosimetry  
Laboratory (SSDL) Applications



TC on Philippine Alocasia Conservation  
and Sustainable Development



Training Course for Regulators



RSC Local Forensics Group  
(RSC-LF)



Chemical Safety Awareness Training



TC on Security of Radioactive  
Materials (TC-SRM)



RSC for Radiation Protection  
Officers of Industrial X-ray Facilities  
(RSC-RPOIXF)





# Technical Training Courses

Planned Courses

Nuclear  
Power  
Courses

Training  
Courses  
for the  
Regulatory  
Staff



# CURIE'S CLASS:

## Curie's Class: Nuclear Science for High School Teachers

- open to science and technology teachers, with preference to senior high school teachers and those handling special science classes.
- among the topics covered are the basics of atomic structure and radioactivity, effects of radiation, risks and safety of radioactive materials, and nuclear applications in various sectors.



# On-the-Job Training for Undergraduates

➤ provides an opportunity for students:

- to work alongside scientists, researchers and/or personnel in the institute, and
- gain valuable experience in the technical and administrative aspects of nuclear science and technology services, research and education



# Research/Thesis Advisorship Program

- open to any qualified graduate or undergraduate university/college student who wishes to undertake the laboratory research part of his/her thesis at the PNRI, making use of PNRI facilities and equipment.



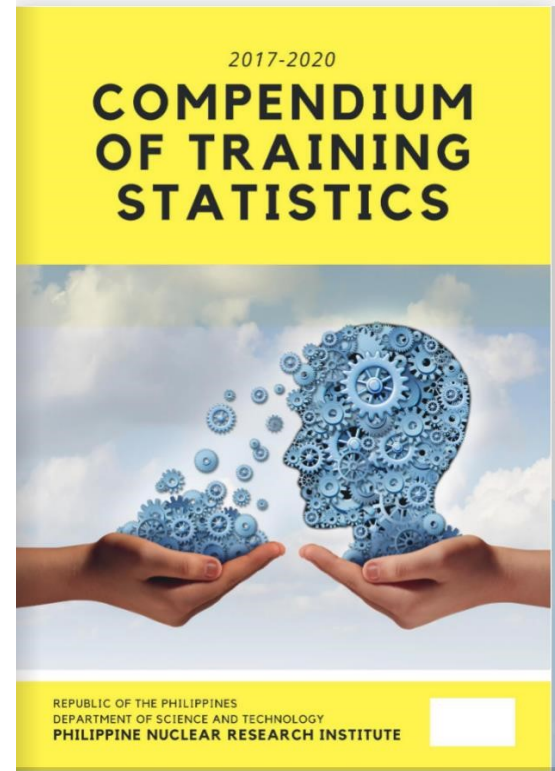


# Compendium of Training Statistics



**Compendium of Training Statistics  
(2011 – 2016)**

- [Compendium \(dost.gov.ph\)](http://dost.gov.ph)



- [Online Flipbook \(heyzine.com\)](http://heyzine.com)





# Accreditation as NDT Training Provider

- The PNRI Nuclear Training Center is an accredited training provider for:



**Lufthansa Technik  
Philippines**



**Masinloc Power Partners Co.,  
Ltd, Zambales**



**Tsuneishi Technical Services  
(Phils.) Inc.**



# Accreditation as Training Provider

- The PNRI Nuclear Training Center is an accredited training provider for:



Midrand, South Africa



# Accreditation as CPD Provider under PRC

Nuclear Training Center, Philippine Nuclear Research Institute is an accredited Continuing Professional Development (CPD) provider by:



CPD Council of  
Mechanical Engineering

CPD Council of  
Chemistry

CPD Council of  
Professional Teachers





# Other Activities





# Other Activities



**International Atomic Energy Agency**  
**Asian Nuclear Safety Network Education and Training Topical Group**  
*Regional Workshop on the Management of Training*  
*System for Nuclear and Radiation Safety*

**Manila, Philippines**  
**14 to 18 November 2022**

---

**Warm greetings from the Philippines!**

**ROEL A. LOTERIÑA**  
**Philippine Team Leader, ANSN ETTG**  
**Meeting Coordinator/Organizer**



# Other Activities

---

## 50<sup>TH</sup> ATOMIC ENERGY WEEK 2022

- 5-9 December 2022
- Special Events Committee activities:
  - Mobile Photography Contest
  - Poster Making Contest
  - NucleART Contest

**ROEL A. LOTERIÑA**

Chair, AEW Special Events Committee



# Other Activities



## 2<sup>ND</sup> SURVEILLANCE EXTERNAL AUDIT 17-18 OCTOBER 2022

### Nuclear Training Center

Area Audited:

Verification of Minor NCs

JNS-01-S1 (Clause 7.1.5)

JNS-02-S1 (Clause 7.1.3)

SSM-01-RA (Clause 7.1.3)

Documents presented:

- DCR Form for PNRINTC Form 34
- PNRINTC Form 34\_Scaler Ratemeter Logbook Content

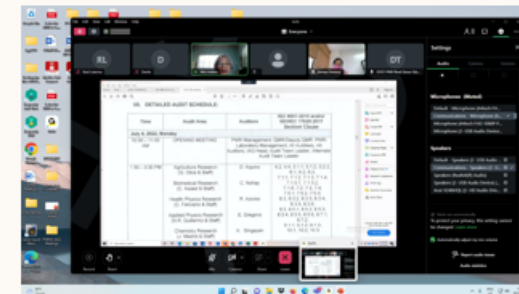
### Internal Audit Group

Area Audited:

Nonconformity and Corrective Actions

Clauses 9.2, 10.2

Clause 8.4 for PPS



**ROEL A. LOTERIÑA**  
Head, Internal Audit Group  
Philippine Nuclear Research Institute



# NTC Training Team



**Roel A. Loteriña, LPT M.Sc.**  
**Supervising Science Research Specialist and Head**  
Radiation and Nuclear Safety  
Radiation Protection  
Training Management  
Curriculum Development  
Quality Management System



**Abigail C. Dagasdas, LPT**  
**Senior Science Research Specialist**  
Physics  
Radiation Protection  
Training Management



**Ramoncito F. Sulit, RME**  
**Senior Science Research Specialist**  
Mechanical Engineering  
Radiation Protection  
Nondestructive Testing  
Training Management



**Jasmine Angelie V. Albelda, PhD.**  
**Senior Science Research Specialist**  
Physics  
Training Management  
Curriculum Development



**Christine P. Singayan, RN**  
**Science Research Specialist II**  
Radiation Protection  
Training Management



**Daniel L. Del Rosario, RCh.**  
**Science Research Specialist I**  
Chemistry  
Radiation Monitoring  
Training Management



**Leah C. Belgera, LPT**  
**Science Research Analyst**  
Radiation Monitoring  
Training Management







“NURTURE,  
TRAIN,  
CAPACITATE”



Nuclear Training Center





# Salamat po



  
**PHILIPPINE NUCLEAR RESEARCH INSTITUTE  
TECHNOLOGY DIFFUSION DIVISION**

## Nuclear Training Center

**Roel A. Loterina**  
Head, Nuclear Training Center  
Technology Diffusion Division  
Philippine Nuclear Research Institute  
raloterina@pnri.dost.gov.ph



Department of Science and Technology

# Philippine Nuclear Research Institute

 [pnri.dost.gov.ph](http://pnri.dost.gov.ph)

 /PNRIDOST

