

Department of Science and Technology

# PHILIPPINE NUCLEAR RESEARCH INSTITUTE

Nuclear Science and Technology Working for You

## Preparedness for Radiation-related Emergency through the RADPLAN

Nuclear facilities worldwide involved in the production, use and transport of radioactive materials are designed to ensure that accidents affecting the public are unlikely to happen. However, experience has shown that emergency planning and preparedness are essential tools in mitigating the consequences of an accident and in controlling the radiation exposures of humans and contamination of the environment.

The Philippine Nuclear Research Institute (PNRI) of the Department of Science and Technology (DOST) is the lead agency in developing and preparing an emergency plan for radiation-related accidents that may affect the Philippines. This emergency plan is called RADPLAN or the National Radiological Emergency Preparedness and Response Plan. The RADPLAN was approved and signed on November 24, 2000 by then Secretary of National Defense Orlando S. Mercado who was also the Chairperson of the National Disaster Coordinating Council-later renamed the National Disaster Risk Reduction Management Coordinating Council (NDRRMC).

### What is a radiation-related emergency or radiological emergency?

A radiation-related emergency or radiological emergency is an event that poses an actual, potential, or perceived danger to public health and safety from radioactive materials or radiation equipment.



*Participants wearing Personal Protection Equipment (PPE)*

### What are the different types of radiological emergencies?

The different types of radiological emergencies are the following:

Emergency from fixed nuclear or radiation facilities

- Emergencies occurring in the transport or loss of radioactive materials
- Emergencies from foreign sources having environmental or health impact on Philippine territories, including the possible entry of contaminated food, scrap materials and other materials
- Emergencies from nuclear-powered ships
- Emergencies from re-entry of satellites with nuclear materials as components

### What are the levels of Radiological Emergencies?

The three levels of radiological emergencies that cover the wide range of preparedness and response levels are:

#### Emergency Level 1 - Alert

A radiation-related accident has occurred in a nuclear-related facility but the event has not directly affected the Philippines and the population in particular. Examples are radiological emergencies involving abnormal operating conditions due to equipment failure, human error or procedural inadequacies.

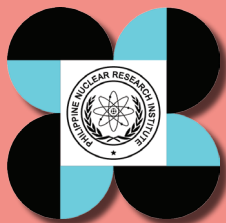
#### Emergency Level 2 - Site Area Emergency

A radiation-related accident has occurred in a nuclear-related facility but the event has not directly affected the Philippines and the population in particular. Examples are radiological emergencies involving abnormal operating conditions due to equipment failure, human error or procedural inadequacies.

#### Emergency Level 3 - General Emergency

The radiological emergency has been confirmed to affect wide areas outside the site boundaries of the affected facility, or its effect has already been felt. Actual or projected radiation doses are beyond the prescribed limits for members of the public.





## What organizations will be involved in a national radiological emergency response?

The National Radiological Emergency Response Organization is composed of the NDRRMC; 12 government departments; Offices of the President and the Press Secretary; and the Philippine National Red Cross.

## Under what conditions will the RADPLAN be activated?

The RADPLAN will be activated under the following conditions:

- When a regional or local authority, other national organizations with jurisdiction, or the private sector requests government support in the event of a radiological emergency;
- When government agencies must respond to meet their statutory obligations in response to a radiological emergency.

The Office of the Civil Defense (OCD) and the PNRI will make a joint formal declaration of the activation of the RADPLAN and will notify concerned participating agencies and the affected local disaster coordinating councils.

## How will the operations in a national emergency be managed?

The management of the national response is determined by the NDRRMC. The national response requires the coordinated action of several national agencies and the appropriate authorities in the local government organizations that need assistance. The concept of operations for a national response is designed to facilitate the delivery of coordinated assistance to government authorities and the private sector. The OCD and the PNRI are responsible for coordinating the national response to all radiological emergencies anywhere in the country. The OCD will coordinate all non-nuclear response activities while the PNRI will coordinate all nuclear response activities. The responsibilities of the PNRI in coordinating all national nuclear response activities are defined in another emergency plan known as the PNRI Radiological Emergency Response Plan (RESPLAN).



## What is the emergency plan for radiation-related accidents in the Philippines?

The emergency plan for radiation-related accidents that may affect the Philippines is called the National Radiological Emergency Preparedness and Response Plan (RADPLAN). The RADPLAN describes the capabilities, responsibilities and authorities of participating organizations and a concept for integrating the activities of these agencies to protect public health and safety. The RADPLAN aims to establish an organized emergency response capability for timely and coordinated action of the Philippine authorities in a peacetime radiological emergency.



## What should the public do in case of radiation-related emergencies?

In case of radiation-related emergencies, remember the following:

- Do not panic. Be calm. Stay indoors and close your windows.
- Protect yourself from radiation exposure. Make effective use of the principles of time, distance, and shielding.

Time = radiation dose is reduced if exposure time to the radioactive material is kept to a minimum.

Distance = exposure dose is decreased, the farther you are from the radiation source.

Shielding = thick, heavy and dense materials such as concrete, lead, earth or steel reduces the radiation intensity.

- Watch out for emergency information from television and radios. If you suspect that an area may have radioactive substances:
- Keep time spent near the device to a minimum.
- Stay as far away as possible from the material and warn other people. Ask help of police authorities to keep people away and to secure the area.
- Immediately contact the PNRI.

