



Radiological Incident Phases

REP Program Overview

On December 7, 1979, following the Three Mile Island nuclear power plant accident in Pennsylvania, President Carter transferred the federal lead role in offsite radiological emergency planning and preparedness activities from the U.S. Nuclear Regulatory Commission (NRC) to the Federal Emergency Management Agency (FEMA).

FEMA established the radiological emergency preparedness (REP) program to:

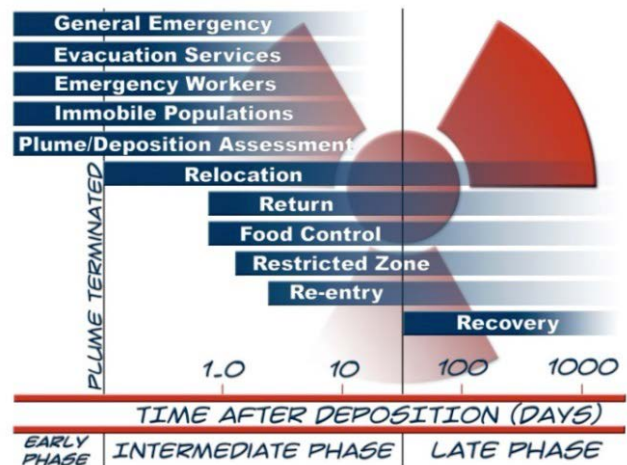
- Ensure the health and safety of citizens living around commercial nuclear power plants to adequately protect them in the event of a nuclear power plant accident.
- Inform and educate the public about radiological emergency preparedness.

REP program responsibilities encompass only “offsite” activities. It includes state, tribal and local government emergency planning and preparedness activities that take place beyond the nuclear power plant boundaries. Onsite activities continue to be the responsibility of the NRC.



FEMA Regions

Emergency Planners divide responses to radiological incidents into three phases of activity.



Early Phase

Also called the Plume or Emergency Phase, the Early Phase occurs at the beginning of a nuclear plant accident involving a release of radioactive material into the atmosphere. Protective actions are taken to reduce possible exposure but doses may accrue in this phase from deposition and inhalation or radioactive material.

The principal protective actions in the Early Phase are:

- Shelter in Place
- Evacuation
- Administration of KI (Potassium Iodide)
- Limiting emergency worker exposure

(The choice of protective actions will be based on the incident status and potential worsening conditions at each phase.)



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Intermediate Phase

The Intermediate Phase includes the Ingestion and Relocation phases and begins after the source of the radioactive release has been brought under control and reliable environmental measurements are available. Doses may accrue in this phase from deposition, re-suspension, and ingestion of radioactive material.

Protective actions in the Intermediate Phase are:

- Relocation of the public
- Apply simple dose reduction techniques
- Food interdiction
- Alternative drinking water
- Limiting emergency worker exposure

Late Phase

The Late Phase begins when actions are taken to reduce radiation levels in the environment to acceptable levels that will allow inhabitants unrestricted use of the areas.

The principal protective actions in the Late Phase are:

- Cleanup
- Waste disposal
- Long term recovery efforts

