



New York State Radiological Emergency Preparedness Program

Frequently Asked Questions About Indian Point Emergency Planning

What is radiation?

Radiation is energy, such as heat, light and radio waves, that moves at high speed through space or matter. Radiation and other radioactive matter are naturally occurring phenomenon that have existed since the beginning of the universe. Radiation is also produced in a nuclear reactor through the fission process, which produces radioactive elements and is emitted when those radioactive elements decay.

Radiation has been studied for a hundred years. It can be very useful when properly controlled for peaceful purposes such as for medical X-rays and the production of electricity. But radiation can be dangerous in large doses as it can cause harm by damaging living cells. Excessive doses of radiation need to be guarded against.

How is radiation measured?

Radiation dose is measured in REM, which is based on the effect of radiation on the human body. It takes into account both the amount of radiation deposited in body tissues and the type of radiation. A millirem (mR), a thousandth of a REM, is a much smaller unit and is most commonly used when discussing possible exposure from nuclear plant accidents.

Radiation can be easily measured with various instruments, including Geiger counters.

At Indian Point, there is a system of permanently installed radiation monitors in the area around the site called Reuter-Stokes monitors, which can detect any radiation in the environment.

What are some beneficial uses of radiation?

Because radiation can be precisely measured and controlled, people have developed a wide variety of uses for radiation to improve quality of life:

- Radiation is used in nuclear medicine to diagnose and treat disease.
- Radiotracers are used for basic research in medicine as well as chemistry, biology, and genetics.
- Food irradiation keeps products safe for human consumption by destroying dangerous bacteria.
- Radiation is used in agriculture to create heartier, nutritious foods and to protect crops from pests.
- Radiography is used to ensure structural integrity of planes, trains, automobiles, bridges, and pipelines.
- Radiation is used in well-logging for resource exploration.
- Radiation is used in space travel in satellites and space probes.
- Radiation is used in smoke detectors for home safety.
- Radiation is used in nuclear power plants to produce electricity.

Can a nuclear power plant explode (like a bomb)?

No. The radioactive fuel in a nuclear plant contains very low levels of Uranium, the element that fissions to produce the nuclear reaction. At these very low levels (less than 5%), an explosion cannot occur. However, precautions are taken so that any radioactive materials produced by the Uranium, even at low concentrations, do not reach the environment.

All nuclear power plants in the United States are designed with containment buildings constructed with both concrete and steel. The 1986 accident in Chernobyl, Russia, for example, occurred in a nuclear plant that did not have a containment building.

What process would government officials use to make decisions during an emergency at Indian Point?

State and county emergency planners, supported by hundreds of highly trained safety experts such as law enforcement, firefighters, medical personnel and other officials, have developed extensive procedures for an emergency that might occur at Indian Point.

If an emergency were to occur, county executives would receive information directly from the nuclear plant operators, as well as from emergency planners and staff from all county departments. At the same time, each county executive would be in immediate and continuous communication with the county executives from the three other counties surrounding Indian Point, as well as state and federal officials.

Together, government officials would decide what protective actions, if any, the public should take. Their decisions and instructions would be communicated to the public through Emergency Alert System broadcasts and other news media.

Sign up for New York State's public alert and notification system at alert.ny.gov.

What is the difference between Protective and Precautionary Actions?

Protective Actions

Protective actions are announced by emergency officials through the Emergency Alert System when a radiological release at a nuclear power plant occurs at a level that may threaten human life. Protective actions include evacuation, shelter-in-place, and ingestion of Potassium Iodide (KI) to protect the thyroid.

Emergency Alert System messages are broadcast on television and radio stations, and will be preceded by the sounding of sirens located throughout the 10-mile Emergency Planning Zone that surrounds the nuclear power plant. This Prompt Notification System also includes activating tone-alert weather radios that have been provided to those within the 10-mile Emergency Planning Zone, but who live too far from the sirens to hear them.

Precautionary Actions

Precautionary actions are those that may help prevent harm to people if a radiological emergency escalates, but are not correlated to imminent risk. Because precautionary actions are time-consuming and require additional staff, they are implemented during the early stages of an emergency, e.g., during an Alert emergency classification at a nuclear power plant, in case those resources are needed later for other life-saving activities.

Precautionary actions may include:

- Closing of parks and recreational areas in the 10-mile Emergency Planning Zone; and/or
- Clearing of waterways within a 10-mile radius surrounding the nuclear power plant site.
- Closing schools and day care centers; and
- Relocating students and school or day care facility to reception centers.

During a developing emergency, students may be relocated to a safe location before it becomes necessary because they are considered a vulnerable population in regard to radiological releases. The agency responsible for implementing precautionary actions – typically law enforcement or school personnel – communicates directly to the public via news releases and news briefings.

Why would I be directed to “shelter-in-place” in some situations and evacuate in others?

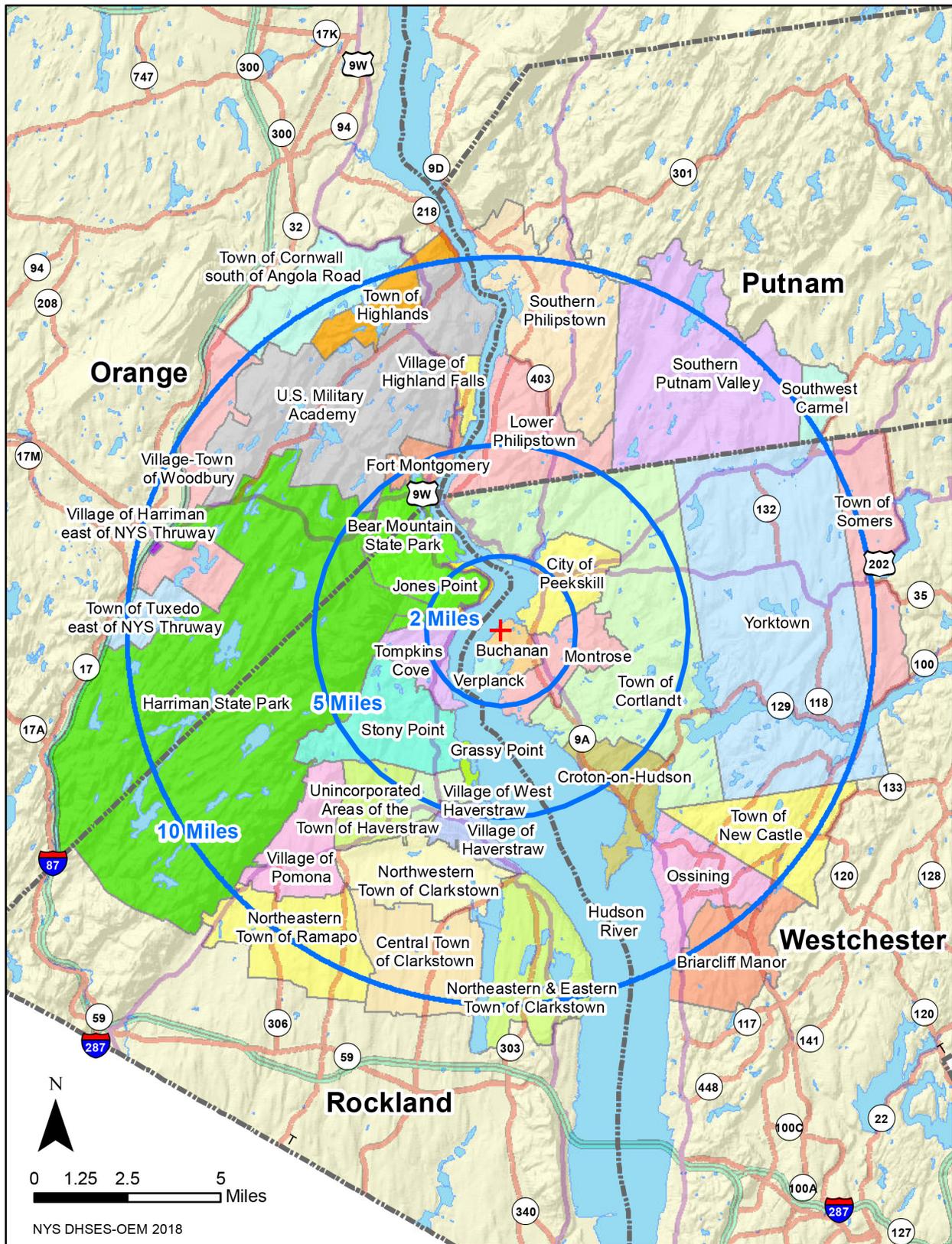
Elected officials will decide what specific protective actions are best for the public to take after considering a wide range of expert advice and information, including data on the amount and duration of the release, wind direction and weather conditions. The actions of sheltering or evacuation each have areas for consideration depending upon the situation.

What are “Protective Action Areas?”

The Emergency Planning Zone around a nuclear power plant is approximately 10 miles around the plant and can include tens of thousands of residents. That larger area is broken down into smaller areas called Protective Action Areas to evacuate only those who need it.

Protective Action Areas can follow municipal and geographic boundaries to make them readily identifiable. These areas also allow residents and transients to easily identify the area they are in and what protective action, if any, should be followed.

Indian Point 10 Mile Emergency Planning Zone (EPZ)



Would all Protective Action Areas be evacuated at the same time?

In most instances, only people living in specific Protective Action Areas would be told to evacuate. Therefore, it is most important for people to follow directions from public officials carefully to ensure a successful evacuation.

What is a “shadow” evacuation?

A “shadow” evacuation involves people who are not in a danger area, but who still choose to evacuate, thereby increasing the time needed to evacuate an area by causing congestion on roads needed by people that are being instructed to evacuate. County emergency plans take the possibility of a “shadow” evacuation into consideration by factoring it into their procedures and training.

Should people evacuate when they are not instructed to?

People should follow all instructions issued by authorities during an emergency. Public awareness regarding the dangers of unnecessary evacuation is one way to reduce the problem.

How could an evacuation succeed when traffic often doesn’t move even during rush hour?

Extensive and enhanced control systems are in place to facilitate traffic flow during any emergency, and law enforcement officials are highly trained in evacuation procedures and traffic control techniques. Entergy, the licensee of the Indian Point Energy Center, has performed traffic studies of roads both within and outside the 10-mile Emergency Planning Zone.

What is “traffic control?”

In the event of an emergency evacuation for manmade or natural hazards, local officials may elect to implement a traffic management plan to facilitate evacuation:

- **Traffic Control Points** are located at the intersection of evacuation routes or roadways in the area being evacuated. Traffic control points are designed to facilitate flow of traffic out of the area at risk.
- **Access Control Points** are located at the intersection of evacuation routes or roadways on the periphery of the area being evacuated. Access control points are designed to stop the flow of traffic into the area being evacuated.

Emergency workers (police, firemen, etc.) will be positioned at Traffic Control and Access Control Points to facilitate traffic flow, provide information to motorists, and serve as fixed point surveillance to identify any impediments to traffic flow.

What if I am a homebound resident?

If you have special needs, such as mobility impairment, visual or hearing impairment, or need specialized transportation or equipment prepare an emergency plan with family, friends or neighbors. You should enroll in your county’s special needs registry on an annual basis to ensure all information is updated and arrangements can be made.

County	Registration Information	Contact
Orange	Fill out the “Are you ready?” registration card from booklet or on the app for smart phones and tablets.	(845) 615-0400
Putnam	Please fill out and return “Are You Ready?” registration card or on the “R U Ready” app for smart phones and tablets.	(845) 808-4000
Rockland	Online registration at rocklandregisters.com	(845) 364-2020
Westchester	Online registration at westchestergov.com/specialneeds	(914) 864-5450

What if I am a group or nursing home resident?

If you have a family member in a facility and require information about emergency planning initiatives, please contact the facility administrator. Nursing homes, hospitals, hospices, etc., within the Emergency Planning Zone include emergency procedures in their emergency plans. Staff is trained in these procedures to keep these people safe in the event of an emergency.

What happens to my pet in an evacuation?

If you choose to go to a friend or a relative's home outside the Emergency Planning Zone, ask them if they will accept your pet, or arrange to have it boarded elsewhere. Pets, except for service animals such as seeing-eye dogs, are not allowed inside General Population Reception Centers or Congregate Care shelters. For more information about preparing your pet for emergencies, visit the Humane Society of the United States or on [Ready.gov](https://www.ready.gov).

What services are available at Reception Centers?

- Monitoring and decontamination of evacuees from the Emergency Planning Zone.
- Monitoring and decontamination of evacuees' vehicles.
- Referral to Congregate Care shelters operated by the American Red Cross.
- Supplies of Potassium Iodide (KI).
- Individual and family needs assessment by Department of Social Services staff.
- Transportation assistance to shelters.