

NUCLEAR INCIDENTS

DEFINITION – Nuclear accidents generally refer to events involving the release of significant levels of radioactivity or exposure of workers or the general public to radiation (FEMA, 1997). Nuclear accidents/incidents can be placed into three categories: 1) Criticality accidents which involve loss of control of nuclear assemblies or power reactors, 2) Loss-of-coolant accidents which result whenever a reactor coolant system experiences a break or opening large enough so that the coolant inventory in the system cannot be maintained by the normally operating make-up system, and 3) Loss-of-containment accidents which involve the release of radioactivity. The primary concern following such an incident or accident is the extent of radiation, inhalation, and ingestion of radioactive isotopes which can cause acute health effects (e.g. death, burns, severe impairment), chronic health effects (e.g. cancer), and psychological effects. (FEMA, 1997).



MITIGATION ACTIONS FOR RESIDENTS

- ▶ **Personal Preparedness** – It is important to plan for disasters. Families may not be together or at home. Consider completing the following to be prepared.
 - **Family Emergency Communication Plan** (FEMA) serves as a comprehensive checklist for household disaster preparedness. [FEMA Family Emergency Communication Plan Checklist](#)
 - **Family Disaster Plan** (American Red Cross) – Communication networks and electricity could be disrupted. Planning in advance will help ensure that all the members of your household know how to reach each other and where to meet up in an emergency. [American Red Cross Family Disaster Plan Template](#)
 - **Emergency Kits** – It is always a good idea to have an emergency kit on hand. Consider basic items as well as special needs.
 Build a Kit (Ready.gov) [ready.gov Build-a-Kit](#)
 Survival Kit Supplies (American Red Cross) [American Red Cross Survival Kit Supplies Checklist](#)
- ▶ **Emergency Alerts and Warnings** – To receive emergency alerts and warnings, refer to the following websites, mobile apps, and other resources.
 - **American Red Cross Mobile Apps** (Apple App Store, Google Play, or text to “90999” [Mobile Apps - The American Red Cross](#)
 - **South Central Alert** – This service allows residents and businesses in an eight county area to be notified of an emergency situation and important alert messages in a variety of ways, including on their cell phones, home and work phones, by text messaging and e-mail. [South Central Alert - Sign Up](#)
 - Monitor police news feeds, weather, and news on social media or websites. Receiving periodic updates is vital.

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- ▶ **Safe Rooms** – Concrete safe rooms or shelters can be constructed in houses, trailer parks, community facilities, and business districts as protection from hazards, including nuclear incidents.
- ▶ **Education and Awareness** – Obtain public emergency information materials from the power company that operates your local nuclear power plant or your local emergency services office. If you live within 10 miles of the power plant, you should receive the materials yearly from the power company or your state or local government.



MITIGATION ACTIONS FOR MUNICIPALITIES

- ▶ **Adopt the York County Hazard Mitigation Plan** by resolution or develop and implement a municipal hazard mitigation plan. [York County Hazard Mitigation Plan](#)
- ▶ **Prepare a Continuity of Operations Plan** to ensure that essential functions continue to be performed under a broad range of circumstances, protecting residents and minimizing business interruption. Consider what capital improvements are needed to adequately protect business or properties. [FEMA Continuity of Operations Brochure](#)
- ▶ **Prepare an Emergency Operations Plan** which describe who will do what, as well as when, with what resources, and by what authority – before, during, and immediately after an emergency. [FEMA Guide for All Hazards Emergency Operations Planning Guide](#)
- ▶ **Coordination** – Develop pre-disaster Memorandums of Agreements or Memorandum of Understanding with adjacent jurisdictions. Build partnerships (neighborhoods, emergency management/first responders, businesses, utility service providers, and local government agencies to strengthen response and recovery.
- ▶ **Public Education and Outreach** – Educate residents regarding risk and impact of hazards, how to prepare and protect themselves and their property. Facilitate funding for mitigation measures and technical assistance programs that address measures that citizens can take.
- ▶ **Emergency Planning for Transportation Routes** – Communities located along major transportation routes should develop and practice an emergency plan for handling transportation accidents involving radiological materials.
- ▶ **Radiological Emergency Preparedness for Nuclear Plants** – Radiological Emergency Preparedness (REP) for communities surrounding nuclear power plants requires proper awareness of, training on, and implementation of radiological emergency procedures. Specific planning requirements for communities within primary and secondary Emergency Planning Zones are found in the [Code of Federal Regulations](#) (44 CFR § 350, 351, 352) and in a [Nuclear Regulatory Commission guidance document \(NUREG-0654\)](#).

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- ▶ **Shelters and Warning Systems** – Communities can promote awareness of designated shelters and accident warning systems. They also may develop and promote workable population protection plans, i.e., evacuation and in-place sheltering plans.
- ▶ **Hazard Resistant Building Materials** – Public buildings and critical facilities can be constructed using laminated glass, metal shutters, structural bracing, and other hazard-resistant, durable construction techniques.