RADIATION SURGE STATE OPERATIONS PLAN

Indiana Department of Health

June 2023

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TABLE OF CONTENTS

PROMULGATION STATEMENT

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INDIANA DEPARTMENT OF HEALTH
RADIATION SURGE STATE OPERATIONS PLAN (RSSOP)
PROMULGATION

The primary role of government is to provide for the welfare of its citizens. The welfare and safety of citizens is never more threatened than during disasters. The goal of emergency management is to ensure that mitigation, preparedness, response and recovery actions exist so that public welfare and safety is preserved.

The RSSOP provides a comprehensive framework for statewide emergency management during a radiological event. It addresses the roles and responsibilities of government organizations and provides a link to local, state, federal, and private organizations and resources that may be activated to address radiological disasters and emergencies in the State of Indiana.

The RSSOP ensures consistency with current policy guidance and describes the interrelationship with other levels of government. The plan will continue to evolve, responding to lessons learned from actual disaster and emergency experiences, ongoing planning efforts, training and exercise activities, and federal guidance.

Therefore, in recognition of the public health emergency preparedness and response responsibilities of state government and with the authority vested in me as the State Health Commissioner of Indiana, I hereby promulgate the Radiation Surge State Operations Plan.

EXECUTIVE SUMMARY

Radiological emergencies are a possible result of recent technological advances. Two major accidents involving nuclear power plants occurred in Chernobyl, Ukraine, (1986) and Fukushima, Japan (2011). Both accidents resulted in the release of radioactivity that impacted Ukraine's and Japan's respective local and national public and environments. In the United States, the Three Mile Island nuclear power plant accident (1979) near Middletown, Penn., is one of the most serious nuclear accidents to occur in the United States. Radiological accidents can also include nuclear weapon detonation, accidents during the transportation of radiological materials, worksite exposures, radiological dispersal devices (RDD), radiological exposure devices (RED), covert individual assaults and assassination attempts involving radiological material.

Radiological emergencies can result in a surge of radiation related injuries for the public. Some of those injuries include acute radiation syndrome (ARS), cutaneous radiation injuries (CRI) and hematological toxicity. Each of these illnesses can result in additional diagnoses caused by the radiation exposure – including mental health and behavioral concerns.

As a result of the potential for radiological emergencies, the Indiana Department of Health (IDOH) developed this Radiation Surge State Operations plan to outline how the state's hospitals, healthcare coalitions, local health departments, and other health agencies, companies, and centers respond to a radiation emergency. The plan cannot account for all emergencies, but includes guidelines for the state's medical systems to respond to healthcare emergencies arising from a radiation incident with the purpose of preserving life and the public health, while seeing other relevant considerations.

RECORD OF CHANGES

Change #	Date	Section Affected	Date Posted	Who Posted

RECORD OF DISTRIBUTION

Plan #	Office/Department	Representative	Signature

PLANNING AGENCIES

Within each plan or annex, an agency or organization has been given the designation of primary, supporting, non-governmental or local agencies based on their authorities, resources and capabilities. The primary agency identifies the appropriate support agencies that fall under this plan and collaborates with each entity to determine whether they have the necessary resources, information and capabilities to perform the required tasks and activities within each phase of emergency management, including activations in the State Emergency Operations Center (SEOC) and impacted areas. Though an agency may be listed as a primary agency, they do not control or manage those agencies identified as supporting agencies. The agencies listed below are part of the Whole Community Planning Committee for this plan/annex.

IDOH AGENCY DIVISIONS

IDOH Agency Divisions	
Division	**Planning Functions**
Infectious Disease Epidemiology & Prevention Division	The planning function of the Infectious Disease Epidemiology & Prevention Division is to provide subject matter expertise over disease surveillance and investigation.
Finance Division	The planning function of the Finance Division is to provide subject matter expertise on the provision of funds and tracking of resources before, during and after an emergency response.
Office of Public Affairs	The planning function of the Office of Public Affairs is to provide subject matter expertise and to approve and provide guidance about public-facing communications.
Environmental Public Health Division	The planning function of the Environmental Public Health Division is to provide subject matter expertise on the prevention and control of environmental health and safety hazards.
Public Health Laboratories	The planning function of the Public Health Laboratories is to provide subject matter expertise of specific, high quality laboratory tests, test data, and test interpretations.
Division of Emergency Preparedness	The planning function of the Division of Emergency Preparedness is to provide relevant public health plans and consults with relevant divisions to obtain subject matter expertise.
Local Health Department Outreach Division	The planning function of the Local Health Department Outreach Division is to provide subject matter expertise on outreach to local public health departments.

Refer to **Assignment of Responsibilities** section of this plan for additional details on IDOH Agency Divisions.

SUPPORTING STATE AGENCIES

Emergency Support Function 1 (ESF 1): Transportation		
Primary Agency	Support Agencies	Planning Functions
Indiana Department of Transportation (INDOT)	IDHS, ISP, INNG, IDOE, IDOC, IDOA, BOAH, SPD, IDOL, IDOH	Subject matter expertise on state public road support; Transportation safety; Restoration/ recovery of transportation infrastructure; movement restrictions; damage and impact assessment
ESF 5: Emergency Management		
Primary Agency	Support Agencies	Planning Functions
Indiana Department of Homeland Security (IDHS)	All	Subject matter expertise on coordination of incident management and response efforts; Issuance of mission assignments; Resource and human capital; Incident action planning; Financial management for immediate response needs
ESF 8: Public Health and Medical Services		
Primary Agency	Support Agencies	Planning Functions
Indiana Department of Health (IDOH)	IDHS, EMS, INDOT, INNG, ISP, OFBCI, FSSA, BOAH, Dept. of Commerce, IDOA, State Budget Agency, IURC, Dept. of Insurance, Dept. of Labor, SPD, State Treasurer, IHA	Provide subject matter expertise on public health; Medical support; Mental health services; Mortuary services
ESF 10: Oil and Hazardous Materials Response		
Primary Agency	Support Agencies	Planning Functions
Indiana Department of Environmental Management (IDEM)	IDNR, IDHS-HAZMAT, INDOT, IDOH, ISP, INNG, EMS, Dept. of Insurance, FSSA, IDOA, SPD	Subject matter expertise on oil and hazardous materials (chemical, biological, radiological, etc.) response; Spill restoration, short-and long-term environmental cleanup
ESF 13: Public Safety and Security		
Primary Agency	Support Agencies	Planning Functions
Indiana State Police (ISP)	IDNR, State Excise Police, INNG, IDHS, Dept. of Correction, Dept. of Labor, IDOH, FSSA, INDOT, IDOA	Subject matter expertise on law enforcement and military assistance; Security planning and technical resource assistance; Public safety/security support/escort support; Support to access, traffic, crowd control and evacuation

LOCAL ORGANIZATIONS

Local Organizations	
Organization	**Planning Functions**
Local Health Departments	Subject matter expertise on local health department functions/capabilities
Indiana Frontline Centers	Subject matter expertise on initial triage and treatment during radiation surge response
Indiana Emergency Medical Service Providers	Subject matter expertise on transportation considerations during radiation surge response
Indiana District Healthcare Coalitions (HCCs)	Subject matter expertise on healthcare coalition (HCC) functions/capabilities
Indiana Department of Homeland Security (IDHS)	Subject matter expertise on radiation emergency preparedness (REP)

HHS DOMAINS AND PREPAREDNESS CAPABILITIES MATRIX

The information in this section was derived from Centers for Disease Control and Prevention (CDC)'s Public Health Emergency Preparedness Capabilities, the Administration for Strategic Preparedness and Response (ASPR) Health Care Preparedness and Response Capabilities, as well as the Health and Human Services (HHS) Domains. The domains and capabilities relevant to the plan are identified below.

ASPR Health Care Preparedness and Response Capabilities	
1	**Foundation for Health Care and Medical**
2	**Health Care and Medical Response Coordination**
3	Continuity of Health Care Service Delivery
4	**Medical Surge**

CDC Public Health Emergency Preparedness and Response Capabilities			
1	**Community Preparedness**	9	**Medical Materiel Management and Distribution**
2	**Community Recovery**	10	**Medical Surge**
3	**Emergency Operations Coordination**	11	**Nonpharmaceutical Interventions**
4	**Emergency Public Information and Warning**	12	**Public Health Laboratory Testing**
5	Fatality Management	13	Public Health Surveillance and Epidemiological Investigations
6	**Information Sharing**	14	**Responder Safety and Health**
7	**Mass Care**	15	Volunteer Management
8	Medical Countermeasures Dispensing and Administration		

DOMAINS					
Community Resilience	Incident Management	Information Management	Surge Management	Countermeasures and Mitigation	Biosurveillance
Foundation for Health Care and Medical Readiness **Community Preparedness** **Community Recovery**	**Foundation for Healthcare and Medical Readiness** **Health Care and Medical Response Coordination** Continuity of Health Care Service Delivery **Emergency Operations Coordination**	**Health Care and Medical Response Coordination** **Public Information and Warning** **Information Sharing**	Continuity of Health Care Service Delivery **Medical Surge** Fatality Management **Mass Care** **Medical Surge** Volunteer Management	**Foundation for Health Care and Medical Readiness** Continuity of Health Care Service Delivery Medical Countermeasure Dispensing **Medical Material Management and Distribution** **Non-Pharmaceutical Interventions** **Responder Safety and Health**	**Public Health Laboratory Testing** Public Health Surveillance and Epidemiological Investigation

COMMUNITY LIFELINES

A lifeline provides indispensable service that enable the continuous operation of critical business and government functions and is critical to human health and safety, or economic security. In the table below, community lifelines are identified and those relevant to the plan are highlighted and **bolded**.

Community Lifelines	
Lifelines	**Functions**
Safety and Security	Law Enforcement/Security, Search and Rescue, Fire Services, Government Services, Community Safety
Communications	Infrastructure, Alerts, Warnings and Messages, 911 and Dispatch, Responder Communications,
Food, Water, Sheltering	Food, Water, Shelter, Agriculture
Transportation	Highway/Roadway, Mass Transit, Railway, Aviation, Maritime
Health and Medical	**Medical Care, Patient Movement, Public Health, Fatality Management, Medical Supply Chain Responder Communications, Financial Services**
Hazardous Material	**Facilities, Non-Fixed Sites**
Energy (Power and Fuel)	Power, Fuel

I. Introduction

A. Purpose

The purpose of the State Radiation Surge State Operations Plan is to describe the procedures for radiological incidents resulting in a significant surge of patients. This plan outlines the state's response to a surge in radiation at an operational level.

B. Scope

The scope of this plan is limited to outlining the operational intent when responding to a surge in radiation related illness as a result of radiation exposure. This plan includes considerations for public health agencies, the Radiation Injury Treatment Network (RITN), Emergency Medical Services (EMS), and healthcare systems.

This document supplements policy and procedures contained in the National ESF-8 Public Health and Medical Services Annex and is consistent with the National Incident Management System (NIMS). This plan is to be utilized in conjunction with IDHS Radiological Emergency Preparedness Plan as well as with other State Plans that include (but are not limited to):

- **IDOH Emergency Operation Plan / Framework**

- **IDOH Department Operations Center Plan**

- **ESF-8 Annex of State Emergency Operations Plan**

- **IDHS Radiological Emergency Preparedness Plan**

- **IDHS Radiological Transportation Plan**

- **IDHS Radiological-Nuclear Detection Plan**

Local health departments, including county and tribal health departments, are important local response entities for community-level planning and response activities. Frontline Centers, healthcare providers, emergency medical agencies, and other first responders play an essential role at the frontline of a radiation surge public health emergency response. All stakeholders involved in a radiation surge response within the State of Indiana are encouraged provide ongoing input on the Radiation Surge State Operations Plan to ensure effective collaboration and coordination of future response efforts.

C. Jurisdictional Information

Indiana is a state located in the Midwest region of the United States. The population of Indiana is 6,806 million (as of the 2021 Census estimate) and has a population density of approximately 181 people per square mile, ranking it as the 16th most densely populated state in the country. Its capital and largest city is Indianapolis, with a population of 892,039 (as of the 2021 Census estimate) and has a population density of approximately 2,469 people per square mile. There are 92 counties and 95 local health departments within the state. Marion County is the largest county, with a population of 971,1027 (according to 2021 Census estimate) and has a population density of 2,466 people per square mile.

D. Planning Assumptions and Limitations

As it is impossible to address every variable impacting the effectiveness of a plan, every plan relies upon several assumptions coupled with limitations. The following is a list of possible assumptions and limitations, informing the audience of necessary conditions for a successful execution of the plan, in addition to caveats that may exist within planning content.

1. Planning Assumptions

- IDOH staff and supporting partnering agencies are aware of their roles and responsibilities as outlined in this plan
- Agency subject matter experts will share the most up to date information, maintaining a common operating picture
- The public will likely be worried over a radiation surge public health emergency and will require information and reassurance, which will involve crisis emergency risk communication (CERC)
- The State of Indiana Emergency Operations Center (SEOC) may be activated.
- Necessary information will be disseminated to the public, as needed, ensuring appropriate action is taken by the public
- A radiological event will lead to a surge of patients seeking treatment
- IDOH will coordinate with IDHS during response operations with support from the federal government
- Surge of patients will depend on event type and location relative to Indiana

2. Planning Limitations

- Not all healthcare facilities in the region may be able to care for a surge of patients with ARS or CRI

- First responders have varying levels of experience with treating radiological injuries radiological surge experience

- Few healthcare facilities have expertise in the management of bone marrow failure (bone marrow is the organ most sensitive to radiation)

- The number of healthcare facilities specializing in hematology, blood and marrow transplants is limited

- Indiana has one participating Radiological Injury Treatment Network (RITN) healthcare facility, which limits expert care

E. Affected Area Populations

The four licensed nuclear power plant facilities located in Illinois and Michigan may affect eleven (11) northwest and north central Indiana counties. It is recommended that populations who have limited English proficiency be identified and educational materials and Emergency Alert System (EAS) messages translated into the identified language. The table below shows the population for each county and the percentage of those population that have limited English prophecy.
See Appendix D

II.

Name of Facility/ Location	Counties Affected in Indiana	Estimated Population of Area Affected*	Language that Meets Threshold *2017-2021 American Community Survey 5-yr Est.
Donald C. Cook Nuclear Plant, Bridgman, MI	Elkhart	206,921	Spanish (17.6%)
	Kosciusko	80,106	Spanish (8.6%)
	LaGrange	40,524	Spanish (4.4%)
	Lake	498,558	Spanish (20.4%)
	LaPorte	112,390	Spanish (7.3%)
	Marshall	46,121	Spanish (10.8%)
	Porter	174,243	Spanish (11%)
	St. Joseph	272,212	Spanish (9.8%)
	Starke	23,372	Spanish (4.4%)
Braidwood Station, Braceville, IL	Jasper	33,091	Spanish (6.6%)
	Lake	498,558	Spanish (20.4%)
	Newton	13,808	Spanish (7.7%)
Palisades Power Plant, Covert, MI	Elkhart	206,921	Spanish (17.6%)
	LaPorte	112,390	Spanish (7.3%)
	St. Joseph	272,212	Spanish (9.8%)
Dresden Nuclear Power Plant, Morris, IL	Lake	498,558	Spanish (20.4%)
	Newton	13,808	Spanish (7.7%)

III. Concept of Operations

A. General

During a radiological emergency response, the Indiana Department of Health (IDOH) has the overall responsibility of activating the Radiation Surge State Operations Plan. IDOH coordinates all items relating to public health with the goal of preserving life and safety for residents in the State of Indiana. Although IDOH has overall coordinating responsibility, numerous organizations and agencies will prepare for and respond to a radiological emergency.

1. Background and Overview

Radiological emergencies may be accidental or intentional and can have wide-ranging effects on the healthcare system. Each type of event has different implications for planning and response. The following list compares these different incidents and highlights healthcare system impacts across this spectrum of incident type. This plan focuses on the impact to the healthcare system with additional, broader public health and community recovery considerations that may tangentially affect healthcare.

Radiation is the emission or transmission of energy in the form of waves or particles through space. Exposure to radiation can be lethal and lead to many health risks. Several factors influence the health effects of radiation, such as how fast the dose is received (dose rate), where the dose is received, and how sensitive an individual is to radiation. The seriousness of illness and the mortality rate varies depending on these conditions. Types of radiation-related illness are related to (but are not limited to):

- **Acute Radiation Syndrome (ARS)**

  Exposure to large amounts of radiation throughout the entire body for a short duration

- **Cutaneous Radiation Injuries (CRI)**

  Exposure to large doses of radiation, causing injury to the skin

- **Hematological Toxicity**

  A decrease in bone marrow and blood cells, which may lead to infection, bleeding or anemia as a direct result of radiation exposure

B. Radiological Events

1. Nuclear detonation

Nuclear detonation is a massive explosion caused by the fission of nuclear material. Nuclear explosions produce both immediate and delayed destructive effects. Blast, thermal radiation, and prompt ionizing radiation cause significant destruction within seconds or minutes of a nuclear detonation. The delayed effects, such as radioactive fallout and other possible environmental effects, inflict damage over an extended period ranging from hours to years. Dangerous fallout is produced by fission products and neutron-induced radionuclides and can travel many miles. It may include hundreds of isotopes, of which 19 are most likely to affect people's health. A nuclear detonation can destroy facilities and critical systems, causing massive casualty, inflicting injury and illness patterns, and disseminating across multiple geographies (exposure tracking).

2. Radiological Dispersal Devices (RDD)

Radiological dispersal devices (RDD), also known as dirty bombs, are conventional explosives combined with radioactive material. They are designed to use explosive force to disperse the radioactive material over a large area, such as multiple city-blocks, but do not cause "fallout." RDD can also be nonexplosive with food, water, or other contamination. This could be a challenge to determine a Time-Zero (start of incident) and event location.

3. Radiological Exposure Devices (RED)

Radiological Exposure Devices (RED) include radioactive substances left where they can passively expose people. REDs may be hidden in public places (e.g., under a subway seat, in a food court or in a busy hallway). People who sit near or pass close to the RED may be exposed to radiation. The dangers of a RED depend on three factors: 1) the type and amount of radioactive material used; 2) how long a person spends near the device; and 3) what parts of a person's body are exposed to radiation coming from the device. People exposed to high levels of radiation can develop symptoms of Acute Radiation Syndrome (ARS). They can also develop radiation burns. Health effects may take hours, days, or weeks to appear. These effects can range from mild to severe (e.g., cancer or death). Some people may not experience any health effects.

4. Nuclear Power Plant

Nuclear power plant accidents can include the accidental release of radioactive materials, or the accidental or intentional failure of or damage to the reactor and its safety systems, potentially leading to the core's meltdown. Nuclear power plants have safety and security

procedures in place and are closely monitored by the Nuclear Regulatory Commission (NRC). A large-scale release of radioactive isotopes is rare. In most instances, the release of isotopes is contained and restricted to the facility and its personnel. An accident at a nuclear power plant could release dangerous levels of radiation over an area (sometimes called a plume). Radioactive materials in the plume from the nuclear power plant can settle and contaminate people who are outdoors, buildings, food, water, and livestock. Radioactive materials can also get inside the body if people breathe it in or eat or drink something that is contaminated.

Most exposures range between high and low levels with acute radiation syndrome (ARS) and long-term health effects being possible from the exposure. Additionally, blast and burn injuries, evacuation related accidents, and mental health effects are possible health concerns related to a nuclear power plant accident.

5. **Covert Individual Assault / Assassination Attempt**

Covert individual assault and assassination attempts involve the use of radioactive isotopes during an assault or assassination. The perpetrator and the intended victim may be exposed, in addition to anyone else in the vicinity of the victim or the exposure source – usually an ingested isotope. If detection is delayed, there may be a need to track or trace the exposure and potential secondary contamination occurrences. Some effects include skin and eye irritation, burns, and acute radiation syndrome (ARS), depending on the source, route, and level of exposure.

6. **Worksite Exposure**

Worksite exposure is an unintentional event causing the release of radioactive isotopes in an industrial or medical facility that regularly uses the materials. It also includes an accidental radiological release following an incident involving the transport of radioactive material. Most exposures are low level, however, skin and eye irritation, burns, inhalation, internal contamination, and acute radiation syndrome (ARS) are possible.

7. **Transportation**

Annually three (3) million radioactive shipping activities occur in the United States. Radiological material/waste is moved through Indiana daily by all modes of transportation, (air, rail, water and highway) in a variety of packages. The State of Indiana has an extensive transportation network that includes: seven interstate highways, three international airports, a widespread rail system, and three marine ports, one on Lake Michigan and two on the Ohio River.

The Radiological Transportation Plan provides reasonable assurance that government efforts will be directed toward mitigating the consequences of any accidents and appropriate measures will be taken to protect health and safety, prevent damage to property and the environment. The plan describes the organization, responsibilities and resources that provide a coordinated state response to assist local resources for actual or potential release. (From IDHS RAD Transportation Plan)

C. Radiation Injury Treatment Network (RITN)

Indiana has more than 160 hospitals throughout the state. All Indiana hospitals, as well as ambulatory surgical centers, rural health clinics, and other healthcare facilities are considered Frontline Centers within the state. Additionally, Indiana has one (1) Radiation Injury Treatment Network (RITN) center. The Radiation Injury Treatment Network (RITN) center is a national network of medical centers with expertise in assisted management with partners for radiological injuries and cancer treatment.

RITN's purpose is to maximize health related outcomes among causalities with ARS following a mass casualty disaster involving radiological, nuclear, or chemical agents with marrow toxicity. During an event, RITN will conduct patient tracking, psychosocial care, and family re-unification. Prior to a radiological incident, RITN will develop guidelines for treatment and management of patients with hematologic toxicity. When receiving patients, patient decontamination will be conducted prior to being transferred to RITN centers.

Franciscan St Francis Health Indianapolis is the only hospital participating in the Radiation Injury Treatment Network (RITN) within the state of Indiana. Established in 1974, Franciscan St. Francis Health is dedicated to care for everyone who comes through their doors. Franciscan Health has 11 operating hospitals within Indiana. The hospital contains a blood and marrow transplantation center specializing in the treatment of hematological disorders and blood cancers, including bone marrow/stem cell transplants and CAR T-Cell therapies. This facility has the resources necessary to treat individuals who may develop ARS due to exposure to radiation.

During a radiological event, Franciscan St. Francis Health Indianapolis initiates its Command Center, which includes Disaster Manager and Radiation Safety Officer roles. Through its Command Center, Franciscan St. Francis Health manages its patient transportation, supply chain, logistics, and communication. Additionally, other hospitals can contact Franciscan Health's Command Center for SME assistance regarding radiological related inquiries at (317) 528-5000 (operator), (317) 528-8888 (direct), or hospaincidentcommand@franciscanalliance.org.

D. Communications References

As the incident evolves from warning to initial impact, then response, and into recovery, risk communication and messaging focus will shift. During a radiological event, early sheltering orders are critical and can save tens of thousands of lives. Communication includes providing the public with information through verbal, written or symbolic means. Clear, concise and coordinated messages provided by trusted leaders before, during and after an incident will help residents be better informed to make important health-related decisions and ensure their safety.

Messages should be accessible in multiple languages and media types, including social media and at the community level (e.g., churches, community centers, and other similar gathering places). Pre-scripted messages may be helpful, particularly for immediate shelter-in-place orders that communicate the need to seek shelter in as robust a structure as possible and as deep within the structure as possible. Personal preparedness is critical for population survival and traditional means of communicating emergency messages may fail after an incident, so informing the public in advance about protective actions they can take, including best practices such as sheltering in place for at least 24 hours following a radiological release. Other aspects, such as turning away immediately from any large flash (to avoid the incoming blast wave) and shutting down building ventilation systems in debris / fallout areas may also be included in pre-event education.

E. Initial Actions

Initial response activities to a radiological event will be conducted by IDHS, depending on the size and scope of an event, and the potential for a negative impact on the Indiana's Public Health System, IDOH may receive notification of the event and a request for Emergency Support Function 8 (ESF-8) activation. IDOH will monitor the event and activate the DOC if necessary.

If necessary, IDOH will activate the DOC, which will be staffed and supported based on the NIMS ICS structure. Though the lead agency for a radiological event is IDHS, the Policy Group does have the ability to activate the DOC ahead of a potential radiation incident or in response to one. The DOC will conduct response actions intended to reduce impact of public health events, to include radiological incidents. If during an event, the SEOC activates, the current ESF-8 will work with other state agencies and local partners to monitor the event and provide assistance and resources as necessary.

IDOH Office of Public Affairs will communicate incident updates to the public and IDOH's stakeholders. OPA manages the agency's social media accounts to include YouTube, Facebook,

Twitter and Instagram. These platforms will be used to provide situational updates to the public. OPA also utilizes the GovDelivery system which sends updates and direct notices to the state's 95 local health departments.

F. Sheltering & Safety Considerations

During events resulting in the release of radiation, early sheltering orders are critical and can save tens of thousands of lives. Healthcare facilities in the immediate area of a radiological incident will likely be asked to shelter in place, or they may also be asked to evacuate after the immediate impact if the location or the facility is deemed unsafe. The risks of a healthcare facility evacuation or shelter in place decision must be balanced, and weighed against the regional capacity to transport, track, and accommodate patients amid a radiological incident. Facilities should prepare in advance for both possibilities and understand that evacuation may be delayed or impossible due to difficulty reaching the facility, as well as competing community needs that EMS and other agencies will have. Hospitals should also plan for the need to shut down air intake systems to prevent contamination inside the facility.

In some cases, residual contamination may be present outside the facility with very low levels inside. Staff may need reassurance that it is safe to travel to or leave the facility. For example, radiation levels around Fukushima Medical Center were above the 10mrem/h usual threshold for days after the reactor meltdowns but levels inside the buildings were trivial due to their concrete and metal construction. Healthcare coalitions and health systems can be excellent resources in making regional decisions and supporting evacuation operations.

Sheltering-in-place (SIP) may also be considered as an effective process for radiological exposure reduction. SIP involves going or staying indoors immediately. Doors, windows, and HVAC systems that use outside air should be closed or shut down. SIP success demands tailoring preventative measures to specific features of a given exposure. Leaking windows should be sealed with plastic and tape. See the 2019 Radiological Emergency Preparedness (REP) Ingestion Pathway Annex for additional details regarding SIP protocols.

Widespread structural damage and/or radiological contamination could create the need for large-scale shelter operations. While the goal for emergency management is to return people to their homes, or to provide transitional housing, radiation levels may preclude safe return home. The shelter environment must be safe and shelter residents must have access to basic hygiene and healthcare services, clean water, security and safe food. Shelters will need to conduct radiation screening at their entrances to keep contamination to a minimum. Background levels of radiation will rise over time, and acceptable levels of contamination to enter the shelter will need to be determined and adjusted as needed. In Japan, a threshold of

less than 20,000 to 100,000 cpm on a portal monitor was used to denote 'clean' for entry in many shelters after the Fukushima event. More than 440,000 persons were screened in four days. About 400,000 persons required shelter in the immediate aftermath and over 90,000 were still in shelters three months later. Depending on how long people will reside in shelters, potential public health hazards must be monitored (e.g., food safety and hygiene [toilets and showers]). Ensure surveillance is in place to monitor for infectious disease outbreaks, specifically respiratory and gastrointestinal diseases. People may bring pets to shelters, hospitals, or other alternate care sites. Coordination between health personnel and public health and emergency management partners will be necessary to manage pet needs. Pet radiation screening and decontamination services must be addressed in community radiation response plans.

G. Treatment

Treatment of ARS will focus on reducing and treating infections, maintaining hydration, and treating burns and injuries. The higher the dose in radiation, the less likely the person will recover. ARS destroys the person's bone marrow, potentially leading to infection and internal bleeding. This is the most common cause of death in a person with ARS. The time of recovery depends on the dose of radiation received. Recovery time for ARS can be anywhere from two (2) weeks to two (2) years. Additional symptoms of ARS are swelling, itching and redness of the skin.

CRI may occur when a person is exposed to radioactive materials that give off beta particles, penetrating gamma radiation or low energy x rays on a part of their skin. A person who has experienced a cutaneous radiation injury will have the same symptoms as a person who has ARS, though it is not as serious. The person may experience itchiness, tingling, skin redness, and swelling. An exposed person should seek medical attention immediately. Some medications to treat radiation exposure:

- **Potassium Iodide (KI)**
  - Prevents radioactive iodine from being absorbed by the thyroid; for potassium iodide to be effective, it must be taken before or shortly after exposure
- **Prussian Blue**
  - Traps radioactive compounds in the intestines to keep them from being absorbed into other parts of the body. These materials are collected, then passed out of the body via bowel movements. Prussian Blue reduces the time it takes radioactive material to leave the body from 110 days to 30 days
- **DTPA (Diethylenetriamine Pentaacetate)**

- DTPA comes in the form of either calcium or zinc. Both calcium and zinc bind to radiation within the body and reduces the time it takes to spread to the rest of the body. It is then passed from the body via urine.

- **Neupogen**
  - Stimulates the production of white blood cells, reducing the risk of infection, and helps patients with bone marrow damage

H. Decontamination

Decontamination is the removal of radioactive material from a person, object or place. It is essential to remove all radioactive material from the body as soon as possible to reduce the risk of harm and the potential for spreading radiological contamination to others. Materials should be removed from exposed persons or others who have been contaminated. Wash the face, eyes and body with warm water and lots of soap to self-decontaminate. When washing, do not use scalding water or scratch or scrub the surface of the skin too hard. Cover all wounds before starting the decontamination process to reduce recontamination.

Exercise caution when removing contaminated materials from the body to prevent radioactive dust from shaking loose. Radioactive dust is material that falls from the sky due to a nuclear explosion and can lead to additional contamination. Removed materials should be stored in a sealed container and placed out of reach from people or pets.

In a radiological event, the food, milk, and water supply may become contaminated. The IDOH Radiology Lab will coordinate with local and federal agencies to test and monitor these supplies, as needed. Depending on the level of radiation, treatment may not be necessary. When a person swallows or inhales radioactive materials, they should seek an expert opinion regarding the necessity of treatment.

I. Recovery

During the recovery phase, the response team seeks to reduce exposure rates and concentrations of radioactive material in the environment to as low as reasonably achievable (ALARA). ALARA means avoiding exposure to radiation that does not have a direct benefit to a person, even if the dose is small. The state will work with impacted counties and other federal, state, and local partners to begin the recovery process and develop realistic timelines for completion of recovery. The US EPA, IDHS, and IDOH Labs will continue radiological monitoring and will determine when radiation levels have dropped to a safe level. Recovery coordination and decisions will be handled by the Governor's Authorized Representative (GAR), the State Coordinating Officer (SCO).

Monitoring of radiation levels will take place through all phases of the incident. This will be accomplished by aerial measuring systems (flyovers) of specialized equipment, sampling, meter

readings, 10-point surveys, mobile radiation detection and/or swipes. As radiation levels drop into safe Protective Action Guideline (PAG) and Derived Intervention Level (DIL) levels, reoccupation of the relocated areas should be considered. The decision to return will also examine the current and projected future conditions at the event site and the economic cost to displaced individuals and businesses unable to operate. A gradual, planned return is recommended. Recovery coordination and decisions will be handled by the Governor's Authorized Representative (GAR), the State Coordinating Officer (SCO), and the Joint Field Office (JFO).

Areas cleared for return must be below levels of the EPA PAGs. These levels will be monitored by the state, federal and local agencies. Samples of the area will be analyzed by the IDOH Radiochemistry Laboratory or a certified Laboratory under the Lab Response Network (LRN) or the Food Emergency Response Network (FERN). The EPA in conjunction with IDHS and IDOH will make the determination that the area is safe to inhabit again.

Restrictions on food and water may be lifted when it is determined that levels of radioactive material found in food and water supplies decreased below the DIL established by the FDA.

J. Termination of Response

The termination of response extends post event until remediation is completed. First responders, volunteers, and emergency workers directly involved in patient treatment or radiation cleanup will need to follow the emergency worker decontamination protocols. The response concludes once actions no longer represent a response to an "emergency situation" and once action objectives, including cleanup, site recovery, and the work of reducing environmental radiation levels to acceptable levels, and all remediation actions, have been completed. The potential for extended radiation level monitoring may be needed – depending on the nature of the radiological accident.

K. Additional Planning Considerations

1. Access and Functional Needs

The State of Indiana works with public, private, and not-for-profit organizations to build a culture of preparedness and readiness for emergencies and disasters that go beyond meeting the legal requisites of people with disabilities as defined by the most current version of the Americans with Disabilities Act (ADA). IDHS integrates Federal Emergency Management Agency's (FEMA) Access and Functional Needs Framework, which is intended to ensure that individuals who have access and functional needs receive lawful and equal assistance before, during, and after a disaster or public health emergency.

This framework also includes individuals with temporary needs or people who do not identify themselves as having a disability. This includes women who are pregnant, children, older individuals, and individuals with limited English communication.

For the purposes of emergency preparedness and response, "needs" are organized into five categories:

Response Needs Categories (C-MIST)	
Categories	Definitions
C - Communications	Includes people who have limited or no ability to speak, see, hear, or understand; may not be able to hear announcements, see signs, understand messages, or verbalize their concerns during an incident or emergency
M - Medical	Includes individuals requiring assistance in managing activities of daily living such as eating, dressing, grooming, transfers, and using the bathroom
I - Independence	Includes people who can function independently if they have their assistive devices and/or equipment; items consist of mobility aids such as wheelchairs, walkers, canes, crutches; communication aids; medical equipment, such as catheters, oxygen, syringes, medications and service animals
S - Supervision	Includes people with supervision needs; may include people who have psychiatric conditions, such as dementia, Alzheimer's disease, schizophrenia, depression or severe mental illness; addiction problems; brain injury or become anxious due to transfer trauma
T - Transportation	Emergency response requires mobility, and this category includes people who are unable to drive because of disability, age, temporary injury, poverty, addiction, legal restriction or have no access to a vehicle; wheelchair accessible transportation may be necessary

At-risk groups, also referred to as populations with functional and access needs, require special attention in a disaster. During incidents, populations with specific functional and access needs are more likely to be adversely affected. These populations may include, but are not limited to, people with disabilities, older adults and populations with limited English

proficiency. Advanced planning is essential to ensuring that the specific needs of populations with access and functional needs are met. These needs may include assistance, accommodation, or modification for mobility, communication, transportation, safety or health maintenance.

2. **Pediatrics**

During an emergency or public health incident, young children are typically at a higher risk. They have yet to develop the resources, knowledge or understanding to effectively cope with disasters and are more susceptible to injury and disease. Young children are also more vulnerable when they are separated from their parents or guardians during an event, for example, at school or in daycare.

Pediatric-focused resources, experts, and facilities should be pre-identified for providing support to children during a radiation surge. Pediatric planning includes ensuring there is sufficient access to age-appropriate medical supplies, mental health and age-appropriate support resources, coordination with dedicated children's healthcare facilities, and reunification with family members. Strategic partnerships should be formed when relevant and may include pediatric medical professionals and child-serving institutions such as schools and daycare centers.

3. **Behavioral Health**

The psychological impact of a radiation disaster might affect the public differently than other disasters. Following a radiological event, it is common for individuals and families, as well as disaster responders, to experience distress and anxiety related to safety, health, well-being and recovery. Radiological events resulting in a radiation surge have unique characteristics that may increase fear and uncertainty due to low public awareness, difficulty assessing the impact of an event, social stressors, and stigma for those exposed to radiation. Stigma of those exposed to radiation further isolates individuals and prolongs recovery. For victims of severe radiation events, the return to pre-event mental health may not occur for generations.

During radiation disasters, both people contaminated by radiological material and those without contamination, can suffer adverse psychological effects. Several factors may contribute:

- Lack of understanding of radiation and the screening process
- Delayed impact of exposure
- Mistrust of officials who are unable to provide consistent and clear-cut guidance regarding safety measures

Because the effects of radiation can be long-term, the health consequences for future generations can mean an ongoing burden of anxiety and stress. Trust issues and lingering fears will need to be addressed. Excessive use of radiation detection devices and examinations by unbiased experts may be necessary to reestablish comfort.

Healthcare workers (HCWs), public health professionals and other responders, can experience distress, anxiety and fear for personal and family safety during a radiation surge response, and these conditions can linger long after the conclusion of the event. Counseling services through mental health providers at all levels of emergency response is essential to maintain community stability and cohesion.

Prompt and accurate public education and psychological first aid training for HCWs, public health professionals, other responders, and behavioral and mental health providers are important at all levels of stakeholder engagement and should be disseminated through various mental health resources. Existing disaster public education campaigns, resources and initiatives can be found at the federal level and within Indiana through the Family and Social Services Administration (FSSA) Division of Mental Health and Addiction (DMHA).

4. **Media and Mass Communication**

IDHS coordinates the state's communication during a radiological emergency. The SEOC has a robust communications plan that includes WebEOC, voice-over internet protocol (VOIP) phones, cellphones, email, general position email, satellite phones, Broadband Global Area Network (BGAN), 800 MHz radios, 155 VHF radios and amateur radio. The Integrated Public Safety Commission (IPSC) is the lead agency in the ESF #2 communications seat and will facilitate and monitor the radio systems to ensure functionality. The IDHS Communications Director is responsible for managing all communication needs during a response. Communications are maintained and monitored 24/7 in the SEOC or the Watch Desk.

When alerting the public, the SEOC will use the Integrated Public Alert and Warning System (IPAWS), which is in operation 24 hours a day. The IPAWS allows approved governmental agencies to alert and warn their respective communities, in a timely manner, via multiple communications methods. Systems include:

- Emergency Alert System (EAS)
- Wireless Emergency Alert System (WEA)
- Television
- Radio
- Internet

- Social Media
- National Oceanic and Atmospheric Administration (NOAA) All-Hazard Emergency Message Collection System - HazCollect
- National Weather Service (NWS)

Local jurisdictions may also warn the public using the IPAWS system if they have a use agreement with the state. Rebroadcasting of alerts will occur every 15 minutes until deemed no longer necessary by the executive policy group.

The public information officer (PIO) will coordinate with the Illinois or Michigan PIO and FEMA Region V PIO to coordinate public information messages to ensure conflicting instructions are not broadcast to citizens that live on the borders of states. Refer to the Disaster Communications Plan and the IDHS Radiological Emergency Preparedness (REP) Ingestion Pathway Annex for more information. These plans and SOPs may be found in the SEOC.

Local and state public health agencies, EMS, and emergency management should work together through the Joint Information Center (JIC) to carefully construct messages about the situation and its impact/risk to the public. Public relations for all stakeholders (state and local public health, frontline centers, etc.) should monitor traditional and social media for potentially inaccurate information and formulate a plan to proactively correct any misinformation (e.g., about contagion risk).

IV. Direction, Organization and Coordination

A. Direction

The overall authority for direction and control of the response is defined within this section. It typically includes reference that a medical emergency incident rests with the Governor, in conjunction with the State Health Commissioner (Title 10, IC 10-14-3, of the Indiana Code). The Governor Succession Act is contained in Article 5, Executive, of the Indiana State Constitution. The Governor is assisted in the exercise of direction and control activities by his/her staff in the coordination of activities by the Indiana Department of Health. The IDOH maintains a constant liaison with the federal government, state agencies, disaster relief organizations and other state disaster agencies.

In the event of an incident that requires activating the IDOH Radiation Surge State Operations Plan, the Indiana Department of Homeland Security (IDHS) will have the role as the state coordinating agency; IDHS will appropriately determine the Indiana State Emergency Operations Center (SEOC) activation level in support of the operations. Refer to the IDHS Radiological Emergency Preparedness (REP) Ingestion Pathway Annex for additional information. The IDOH ESF-8 representative will provide a key coordination role for the incident, either directly at the SEOC or virtually, as needed. The IDOH may, though unlikely without multiple radiation surge patients, activate the IDOH Department Operations Center (DOC) to serve as a central command point between the CDC, IDHS, District Healthcare Coalitions (HCC), local public health departments (LHD), Frontline Centers and IDOH, if needed.

B. Organization

1. Principal of Incident Management

The National Incident Management System (NIMS) provides a unified approach to incident command, standard command and management structures and an emphasis on preparedness, mutual aid, and resource management. NIMS is not an operational incident management or resource allocation plan, but a template to guide all levels of government, including private sector and nongovernmental organizations, to work together to prepare for, prevent, respond to, and recover from emergency incidents. NIMS implementations include process, operational, and technical standards integrated into emergency response plans, procedures, and policies.

NIMS establishes the Incident Command System (ICS) as the organizational structure to be implemented to effectively and efficiently command and manage domestic incidents, regardless of cause, size or complexity. The ICS structure is a standardized, on-scene, all-hazard incident management concept which provides an integrated organizational structure

that can adapt to the complexities and needs of single or multiple incidents regardless of jurisdictional boundaries.

Homeland Security Presidential Directive 5 (HSPD-5) requires all federal agencies and departments to adopt NIMS. The State of Indiana adopted NIMS as the State standard for incident management in Executive Order 05-09, or any subsequent Executive Order which replaces or supersedes it.
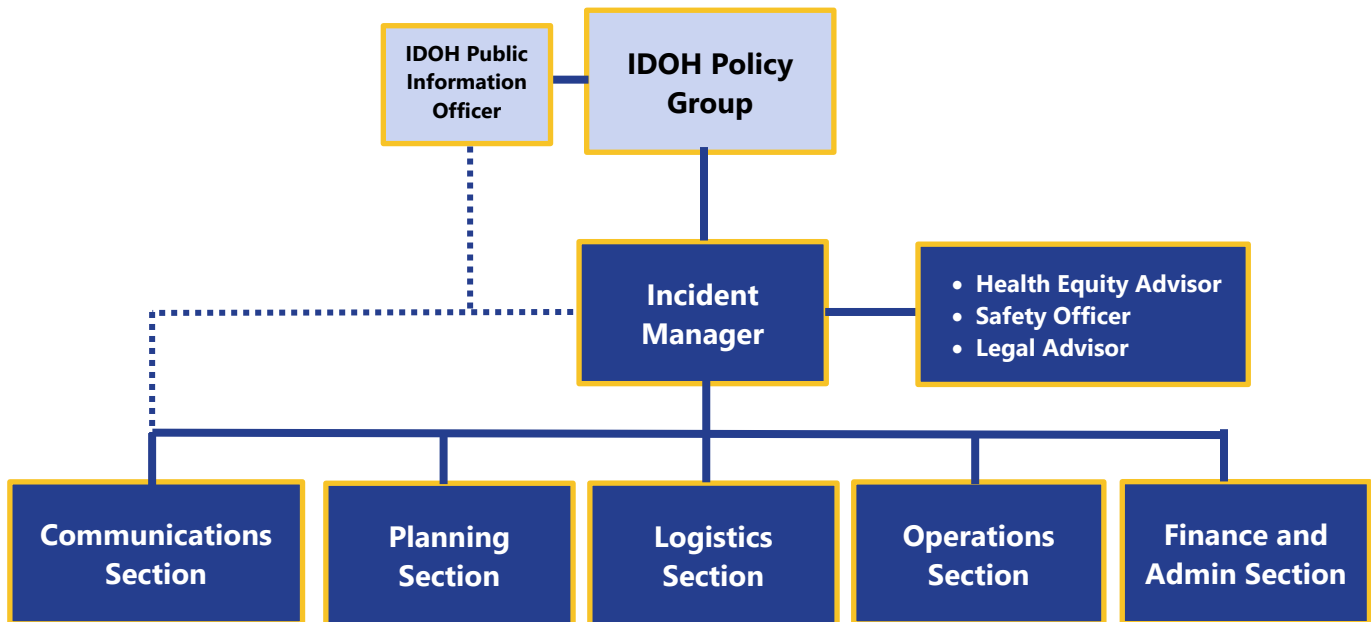
2. **Incident Command System (ICS) / Public Health and Medical General Incident Command Structure**

During large or small public health incidents, the Incident Command Structure (ICS) will be followed by all responders and responding agencies. The ICS is a standardized approach to incident management that:

- Used for all varieties of incidents by all types of organizations and at all levels of government; ICS is applicable to incidents of all sizes
- Can be used for emergencies as well as planning events
- Enables a coordinated response among various jurisdictions and agencies
- Establishes a common process for incident-level planning and resource management
- Allows for the integration of resources with a common organizational structure

ICS is applicable when the IDOH Department Operations Center (DOC) is operational. Incident command, which could consist of a single Incident Commander (IC) or a Unified Command (UC), will lead the effort and will assign command and general staff.

DOC Organizational Chart by Functional Area

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┌──────────────┐      ┌──────────────┐
│ IDOH Public  │      │ IDOH Policy  │
│ Information  │──────│    Group     │
│   Officer    │      │              │
└──────────────┘      └──────┬───────┘
                             │
                     ┌───────┴───────┐      ┌────────────────────────┐
                     │   Incident    │      │ • Health Equity Advisor│
                     │   Manager     │──────│ • Safety Officer       │
                     │               │      │ • Legal Advisor        │
                     └───────┬───────┘      └────────────────────────┘
                             │
    ┌──────────┬─────────────┼─────────────┬──────────────┐
┌───────────┐ ┌──────────┐ ┌──────────┐ ┌──────────┐ ┌──────────────┐
│Communica- │ │ Planning │ │Logistics │ │Operations│ │ Finance and  │
│tions      │ │ Section  │ │ Section  │ │ Section  │ │ Admin Section│
│Section    │ │          │ │          │ │          │ │              │
└───────────┘ └──────────┘ └──────────┘ └──────────┘ └──────────────┘
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C. Internal Coordination

1. **Department Operations Center (DOC)**

The Indiana Department of Health (IDOH) Departmental Operations Center (DOC) is the location of centralized management for coordinating a public health and medical response to a disaster, in conjunction with the Indiana ESF-8 State EOC Representative. The purpose of the DOC is to bring together representatives from divisions of IDOH and its ESF-8 health and medical partners for more effective and efficient problem solving and use of resources. The DOC operates only during, or in preparation for, disasters of a certain scale.

2. **IDOH Policy Group / IDOH Strategic Advisory Committee**

The committee serves as the overall IDOH Executive Policy, directing the activation of medical countermeasures, liaison to the Indiana Governor's Office, recommending public health emergency declarations, determining the allocation of limited resources, and providing overall command and authority to the IDOH response. See **IDOH Emergency Operations Plan / Framework (EOF, pg. 11 Internal Coordination)** for more details. The committee may convene to review employee absenteeism rates, review emerging contagious infectious diseases in the public and determine if action is needed. Actions can vary from minimalistic mitigation strategies to the full closure of an IDOH location. In the

event of a closure, the extensive **IDOH Continuity of Operations Plan (COOP)** will be enacted.

3. **Crisis and Emergency Risk Communications Plan**

    The IDOH utilizes Crisis and Emergency Risk Communication (CERC) during outbreaks and other disasters. CERC is a communication principle by the CDC built on six main principles:

    1. **Be First:** Crises are time sensitive. Communicating information quickly is crucial. For members of the public, the first source of information often becomes the preferred source.

    2. **Be Right:** Accuracy establishes credibility. Information can include what is known, what is not known, and what is being done to fill in the gaps.

    3. **Be Credible:** Honesty and truthfulness should always be maintained.

    4. **Express Empathy:** Crises create harm, and the suffering should be acknowledged in words. Addressing what people are feeling, and the challenges they face, builds trust and rapport.

    5. **Promote Action:** Giving people meaningful things to do calms anxiety, helps restore order, and promotes some sense of control.

    6. **Show Respect:** Respectful communication is particularly important when people feel vulnerable. Respectful communication promotes cooperation and rapport.

    The IDOH Office of Public Affairs maintains an IDOH CERC Plan. This plan may be activated during the onset of an outbreak. As the situation expands and moves from a local emergency to a statewide emergency, public affairs will be coordinated more closely with other state agencies up to and including the implementation of the State Joint Information Center (JIC).

D. Multi-Agency Coordination

The evolution of the size and complexity of hazards and threats has demonstrated the need for effective planning and coordinated emergency response. These events also show disasters have no geographical, economic, or social boundaries and involve multiple jurisdictions, agencies, and organizations. To effectively manage efforts of a multi-agency coordination system, the State of Indiana has adapted its planning and response capability based upon the following operational constructs:

1. **State Emergency Operations Center**

The Indiana State Emergency Operations Center (SEOC) is the IDHS-managed physical location where multi-agency coordination occurs. The purpose of the SEOC is to provide a central coordination hub for the support of local, district, and state needs. The SEOC can be configured to expand or contract as necessary to respond to different levels of incidents requiring state assistance. The State EOC levels of activation are as follows:

Level	Name of Level	Description	Example
IV	Daily Ops	Normal daily operations; Watch Desk is monitoring activities within and around the state	Tornado Watch
An actual or potential for Incident of State Significance will drive the need for an increase in the activation/staffing levels			
III	Active Emergency Conditions	A situation has or may occur which requires an increase in activation of the state EOC, to include: Section Chiefs, JIC may be set up, Limited ESF Staffing, may have FED presence	Large Tornado >EF-3
II	Significant Emergency Conditions	A situation has or may occur which requires an increase in activation of the state EOC, to include: Section Chiefs, Full ESF Staffing, JIC will be set up, Policy Group will be activated, Will have FED presence	Major Flooding
I	Full Emergency Conditions	A situation has or may occur which requires an increase in activation of the state EOC, to include: Section Chiefs, Full ESF Staffing, JIC will be setup, Policy Group is activated, Governor or designee present in Policy Group	Large Earthquake

The SEOC is staffed and organized with the Emergency Support Function (ESF) concept incorporated into an Incident Command System (ICS) structure. Agencies that represent ESF positions are activated in the SEOC during an incident to execute the response phase of emergency management. The designated primary and support agencies for the ESF positions in the SEOC can be arranged and tasked as needed by the IDHS Response Division Director of Operations. The ESF primary agencies remain responsible for the coordination of all phases of emergency management as outlined in their respective ESF annexes, regardless of their SEOC staffing assignments.

2. **Executive Policy Group / IDHS Executive Policy Group**

Emergencies and disasters can produce issues requiring prompt decisions to serve short and long-term emergency management needs. The Executive Policy Group is a function of IDHS that may be established to address issues concerning the safety and welfare of Indiana residents, property and the environment.

The Executive Policy Group may be activated to advise the Governor, local officials and the public and recommend protective actions to be taken during a radiological release. The Executive Policy Group may assemble in the SEOC to assist in coordination and decision-making.

The composition of the Executive Policy Group consists of stakeholders with the authority to make policy-related decisions or make suggestions to support the state's response and technical evaluation during an incident, but varies depending upon the type, size, and complexity of the incident. The IDHS Executive Director of their designee will serve as chairperson of the Executive Policy Group. The Executive Policy group should consist of lead agency representatives from relevant ESFs as well as subject matter experts as necessary.

3. **Joint Information Center**

During an incident or planned event, providing coordinated and timely public information is critical to helping the affected community. Effective and accurate communication to the public about an incident can save lives and property and can also help to ensure credibility and public trust. This vital public safety information is disseminated through various media outlets including television, radio, print and the Internet. The JIC includes representatives from multiple agencies and organizations collaborating to provide a unified message regarding response and recovery efforts to the public. The IDOH Office of Public Affairs (OPA) is involved with these activities. Information regarding the provision of assistance is communicated in an accessible format from the JIC.

4. **Indiana Districts**

The district organization and planning concept is comprised of multiple jurisdictions, disciplines, and agencies. Together they focus on common strategic goals and objectives to satisfy and meet national, state, and local homeland security and public safety needs. By coming together, many counties, local governments, and the State benefit from sharing resources, eliminating redundancy in critical response activities, and coordinating emergency planning, training and exercise activities. The State of Indiana, in conjunction with multiple agencies, have created the following Homeland Security and Public Health Preparedness Districts.

Public Health Preparedness Districts
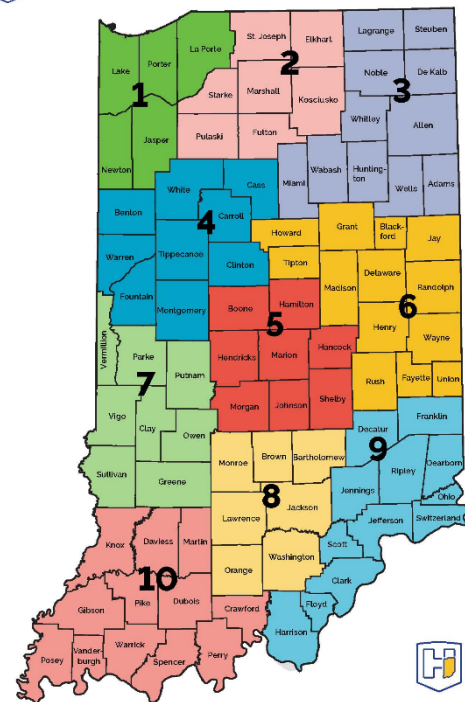
While each District varies in infrastructure, organization, hazards, and other facets, several commonalities of Districts include: District Planning Councils, Healthcare Coalitions, Indiana District Response Task Forces, and other elements.

E. Information Management Systems

Information management for the radiological event will occur through varies formats and access levels. The following is a list of some of the different information platforms utilized.

1. **IHAN**

   The Indiana Health Alert Network (IHAN) is a mass notification system intended to distribute health alerts to healthcare providers and public health professionals across Indiana. The IDOH utilizes the IHAN system to alert local health entities and other partners, including volunteers, about public health emergencies, including pandemics. The IHAN communicates urgent information electronically to a wide audience of constituencies through a cascading network.

   IHAN alert messages fall into one of the following categories:

Health Alert	Conveys the highest level of importance and warrants immediate action or attention
Health Advisory	Provides important information for a specific incident or situation and may not require immediate action of attention
Health Update	Provides updated information regarding incident or situation and is unlikely to require immediate action
Health Information	Provides general health information that is not considered to be of an emergent nature

2. **WebEOC**

   WebEOC is a crisis information management system used by the State of Indiana as a communications platform for local, county and state emergency managers/homeland security partners. This tool is used to help capture emergency and disaster information. The system is a platform, which will support real-time, simultaneous information sharing. During an emergency or disaster, the system allows emergency management partners to share information, document issues and track missions supporting local incident commanders. WebEOC is used daily in Indiana by emergency management personnel at the local, county and state level.

   Only personnel who may serve in an operational capacity during an incident should have access to WebEOC. Additionally, sensitive information is contained in this Homeland Security System, and only vetted personnel will become authorized users. County emergency

management directors provide access to county areas in the system. IDHS manages access for all state and federal partners.

3. **EMResource**

EMResource is a web-based resource management and communication tool developed by Juvare. EMResource is used by healthcare, public health, first responders, and other healthcare and government agencies. This system is utilized to monitor and notify changes in resources statuses such as hospital diversions, EOC activations, resource availability and other information.

F. Surge Support

1. **Medical Surge**

Medical surge is the ability to provide adequate medical evaluation and care during events that exceed the limits of the normal medical infrastructure of an affected community. Following the initial impact, medical surge supports the delivery of medical care and associated public health services, including disease surveillance, epidemiological inquiry, laboratory diagnostic services and environmental health assessments.

Each Healthcare Coalition (HCC) within the state of Indiana maintains a radiation emergency surge annex. This radiation surge operational annex is an annex to a HCC's base medical surge/trauma mass casualty response plan. It is intended to be a high-level response plan to improve capacity and capabilities to manage a large number of causalities. identifying the experts and specialized resources that exist within the HCC, the mechanisms/ processes that will be used to determine which patients go to which facilities.

2. **Medical Reserve Corps (MRC)**

The Medical Reserve Corps (MRC) is a national network of volunteers, organized locally to improve the health and safety of their communities. MRC volunteers include medical and non-medical volunteers. As of July 2023, Indiana has 17 active MRC units, 15 units within LHD's, 1 unit stationed with the Board of Animal Health (BOAH), and 1 unit assigned to the D7 Health Care Coalition (HCC). MRC volunteers in Indiana are utilized in preparedness and response actions and to strengthen the public health workforce.   MRC units engage these volunteers to strengthen public health, improve emergency response capabilities, and build community resiliency. MRCs are maintained by the local health department (LHD) and are a function of the county.

3. **State Emergency Registry of Volunteers for Indiana (SERV-IN)**

The State Emergency Registry of Volunteers for Indiana (SERV-IN) is an electronic registration system and database of local, regional and statewide programs who desire to assist public health and healthcare systems during an event or disaster. SERV-IN is comprised of local volunteer coordinators who mobilize medical and non-medical volunteers to respond to emergencies within the community, or if the volunteer is interested, within the state. SERV-IN was created to assist in the process. The volunteers within the SERV-IN database are for local use.

During a surge situation, SERV-IN may be used to call relevant volunteers to support a variety of operations. This section should define the procedures used for activation, including defining who has the authority to trigger the activation.

G. Resource Support

In the event an incident requires local response entities to request State resource support, applicable existing or acquired State resources will be utilized first. Each of Indiana's 10 District Healthcare Coalitions maintain a cache or managed inventory of PPE that may be utilized in the event of a radiological emergency. Additionally, the IDOH maintains a cache of medical and pharmaceutical supplies within the state warehouse that, when requested, could be distributed to resupply impacted areas.

Additionally, the Indiana Department of Administration (IDOA) is the state agency responsible for providing support services to other state agencies via the use of Capital or State Assets. There are a variety of assets at IDOA's disposal, including land, buildings, equipment and infrastructure. Resource sharing requests between State-level agencies and Emergency Support Functions will be made through the SEOC.

If the State inventory is not sufficient in supplying the need of the requesting entity, the State can request assets from alternate sources. Methods of doing so are as follows:

Quantity Purchase Agreement (QPA):

A QPA is a contract for repetitively purchased items and are established by the IDOA Procurement Division. This type of agreement requires a competitive solicitation process in which the vendor agrees to offer the quoted prices for the term of the contract based upon the State's estimated spending budget.

Special and Emergency Procurements

When unique circumstances arise, special purchasing methods may be used that allow standard practices to be circumvented. The need for this type of purchase must qualify under specific criteria, such as emergency conditions, in which there is a threat to public health or safety, or where there is an opportunity to obtain supplies or services at a substantial savings. A full list of criteria can be found in IC 5-22-10.

Emergency Management Assistance Compact (EMAC)

The EMAC is the cornerstone of the United States' mutual aid system, helping during governor-declared states of emergency by allowing states to send personnel, equipment, and commodities to help disaster relief efforts in other states. The EMAC comes into effect when the affected state routes a resource request to the EMAC A-Team, which then contacts the EMAC member States to source the request beginning with the closest states by time and distance. The requesting and assisting State Emergency Management Agencies complete the EMAC Request for Assistance Form (REQ-A) for accepted offers of assistance. The completed REQ-A constitutes a legally binding agreement between the two states, and allows for credentials, licenses and certifications to be honored across state lines.

Additionally, in instances where the State cannot meet the needs for emergency resources, the State can request Federal SNS resources from the ASPR. The Strategic National Stockpile (SNS) consists of medical material pre-positioned at caches around the nation, which includes PPE resources. These caches supply aid to state/local emergency response authorities in the event of a natural, man-made or terrorism related radiological event.

Additional information pertaining to resource support and procedures are in the **IDOH Administrative Preparedness Plan**.

V. Assignment of Responsibilities

A. General

Most departments/agencies of government have emergency functions in addition to their normal, day-to-day duties. These emergency functions in parallel to or complement normal functions. Each department/agency is responsible for developing and maintaining its own emergency management procedures.

B. Non-Governmental Organizations

1. American Red Cross

The American Red Cross works with a network of volunteers, donors, and partners to aid people affected by disaster across the country and around the world receive shelter and care. Additionally, they aid vulnerable communities in preparedness efforts and ensure access to safe blood and blood products when necessary.

2. Indiana Hospital Association

The Indiana Hospital Association's (IHA) mission is the provide Indiana hospitals with leadership, representation, and support to improve the health of Indiana citizens. The IHA serves to collect, analyze and distribute required data as well as acting as a connection and coordination agency between hospitals and policymakers when necessary.

C. Local Organizations

1. Frontline Centers

Indiana Frontline Centers are responsible for maintaining a state of readiness for radiological surge assessment, in accordance with the most recent guidance from the CDC and the IDOH. These facilities participate in grants with the IDOH DEP and are responsible for delivering the prescribed radiation preparedness performance metrics.

2. Indiana Emergency Medical Service Providers

EMS providers and personnel are responsible for the same awareness level as Frontline, with the ability to implement the **Identify**, **Isolate** and **Inform** protocols. EMS providers that are transporting patients to a Frontline Center should be well trained in radiation surge protocols and PPE procedures. Additionally, EMS providers should prepare with the Frontline Centers to maintain familiarity of the plans and procedures for patient admission, as well as the decontamination process.

Indianapolis Emergency Medical Services (IEMS) is available through a subaward contract with the Indiana Department of Health (IDOH) to provide statewide transport. Transport is available from anywhere within the state to Frontline Centers.

3. **Indiana Local Health Departments (LHDs)**

Indiana has 95 local public health jurisdictions throughout the state responsible for the public health welfare of Indiana residents. During a radiation surge response, the local public health department is responsible for implementing a monitoring program to reunite families affected by the radiation accident. When tracking patients, LHDs should assure the destination is tracked according to LHD guidelines, attempt to keep families together, if they arrived together, when possible, and provide transfer information to the LHD and receiving facility as soon as possible if parents were not available at the time of the transfer. Additionally, the local public health department is responsible for reporting all potential radiation exposed patients to the IDOH as identified, from any report from a healthcare facility or walk-in to the health department. The local health department is responsible for working with Frontline and Treatment Centers and EMS providers that are involved with radiation surge.

4. **Indiana District Healthcare Coalitions (HCC)**

Indiana has 10 district health coalitions in the state. Each HCC is responsible for emergency healthcare coordination and facilitates resource and information sharing. The 2019-2023 HPP Funding Opportunity Announcement (FOA) requires Healthcare Coalitions (HCCs) to develop a complementary coalition-level radiation emergency surge annex to their base medical surge/trauma mass casualty response plan. This annex aims to improve capacity and capabilities to manage exposed or potentially exposed patients during a radiation emergency. According to the 2017-2022 Health Care Preparedness and Response Capabilities, "Communities should be prepared to manage exposed or potentially exposed patients during a chemical or radiation emergency. During such events, individuals may go to various healthcare facilities, police and fire stations, and other locations for assistance …" (Capability 4, Objective 2, Activity 5).

According to the 2019-2023 FOA, HCCs must develop a series of specialty surge annexes to address pediatric, burn, infectious disease, radiation, and chemical emergencies. It is important to consider trauma, illness, surgical, and behavioral health topics inclusively since those caring for patients will likely be working on these situations simultaneously.

D. State Organizations

1. Indiana Department of Health (IDOH)

The IDOH is lead ESF-8 agency for Indiana. The IDOH is charged with the coordination, support, and overall responsibility for the public health and healthcare in Indiana. At the IDOH, the following divisions have specific roles and responsibility in a radiation response.

IDOH Executive Staff

The IDOH Executive Staff, led by the State Health Commissioner, leads the policies and directives of the IDOH. The IDOH Executive Staff additionally includes the chief of staff, deputy and assistant state health commissioners, state epidemiologist, chief medical officer, and several executive offices. During a Radiation Surge Response, the Executive Staff will participate and provide direction on the IDOH coordination calls. If needed, the Indiana State Health Commissioner may implement isolation and quarantine procedures.

Infectious Disease Epidemiology and Prevention Division (IDEP)

The IDEP is responsible for overseeing the epidemiological surveillance and investigation of all communicable diseases in the State of Indiana. IDEP additionally provides a Travel Monitoring Team during enhanced screening and direct active monitoring implementation, such as during 2014 West Africa EVD Outbreak. The IDEP maintains an Epidemiologist on Call, available 24/7 for epidemiological related emergencies.

During a Radiation Surge Response, the IDEP will provide support and guidance for disease surveillance and monitoring as needed by the local health department. The IDEP will establish all coordination calls with partners as needed.

IDOH Laboratory

The IDOH Laboratory is a Level II Laboratory Response Network (LRN) lab capable of performing a variety of testing (including polymerase chain reaction (PCR). The IDOH Laboratory additionally provides guidance and CLIA best practices to hospital and clinic labs throughout the state. The IDOH Laboratory provides Category A and B specimen packaging and shipment training to hospitals.

During a Radiation Surge Response, the IDOH Laboratory will provide presumptive testing and provide guidance and support to Frontline Center laboratories as needed.

IDOH Division of Emergency Preparedness (DEP)

The IDOH DEP is responsible for administering the CDC and ASPR cooperative agreements, to include Public Health Emergency Preparedness (PHEP) and Hospital Preparedness Program (HPP) grants with local public health departments and healthcare coalitions. The IDOH DEP is responsible for staffing the ESF-8 position in the State Emergency Operations Center (SEOC) when needed and serves as an emergency management liaison to the Indiana Department of Homeland Security and other response agencies. The IDOH DEP communicates regularly with the ASPR HPP Project Officer, CDC PHEP Project Officer, ASPR Strategic National Stockpile (SNS), and the HHS Region V Regional Emergency Coordinators. The IDOH DEP is responsible for maintaining the Indiana Radiation Surge State Operations Plan, as well as for developing exercises and supporting exercise documentation.

During a Radiation Surge Response, the IDOH DEP will provide coordination and resource support to hospitals, local public health, and throughout the agency. The IDOH DEP will provide ESF-8 staffing to the SEOC if appropriate. The IDOH DEP will work directly with IDOH Finance on the deployment of any Radiation Surge Personal Protective Equipment caches or with the procurement of any emergency resources. The IDOH DEP may additionally open and manage a public call center if needed. The IDOH DEP may work with the ASPR Office of Emergency Management to request any other emergency resources not available in state.

IDOH Office of Public Affairs (OPA)

The IDOH OPA maintains all media relations for the IDOH, as well as the Crisis and Emergency Risk Communication (CERC) Plan. During a Radiation Surge Response, the IDOH OPA will lead the State media relations as appropriate. If a Joint Information Center (JIC) is established, the IDOH OPA will have the lead role in operations.

2. Indiana Department of Homeland Security (IDHS)

The Indiana Department of Homeland Security (IDHS) is responsible for the oversight and daily operations of both the Indiana State Emergency Operations Center and the Indiana Joint Information Center, including the determination of current activation and staffing levels. The IDHS additionally is responsible for the overall guidance and support to local emergency management, firefighters, EMS, and Hazardous Material responders. During a response, the IDHS may provide additional support to local jurisdictions, if needed, and provide overall state coordination efforts through the SEOC. See the IDHS Radiological Emergency Preparedness (REP) Ingestion Pathway Annex for additional information.

3. **Indiana Department of Environmental Management (IDEM)**

The Indiana Department of Environmental Management (IDEM) is the lead ESF-10 agency for the Indiana. The IDEM is responsible for the overall environmental regulations within the State. The IDEM is responsible for the regulation and permitting of waste facilities in Indiana, include those that potentially could accept radiological waste.

4. **Indiana Department of Transportation (INDOT)**

The Indiana Department of Transportation (INDOT) is the lead ESF-1 agency for Indiana. The INDOT is responsible for the overall transportation infrastructure within the state, including road, air, water and rail. The INDOT is responsible for maintaining data on airports, to include technical information such as runway length.

5. **Indiana State Police (ISP)**

The Indiana State Police (ISP) is the lead ESF-12 agency for Indiana. The ISP is responsible for the overall security and enforcement of laws within the State. During a Radiation Surge Response, the IDOH will coordinate with the ISP any issues regarding law enforcement assistance with isolation and quarantine.

E. Regional And Federal Organizations

1. **DOE RAP Region V States**

The Department of Energy Radiation Assistance Program (DOE RAP) includes Illinois (and City of Chicago), Indiana, Michigan, Minnesota, Nebraska, Ohio, North Dakota, South Dakota and Wisconsin. RAP provides radiological assistance for incidents involving radioactive materials that pose a threat to health and safety or the environment. RAP can provide field deployable teams of health physics professionals equipped to conduct radiological monitoring and assessment activities and can be activated by notifying the DOE Watch Office 24hr number: 630-252-4800. The DOE also maintains operational readiness of the Federal Radiological Monitoring and Assessment Center (FRMAC).

2. **HHS Region V States**

Each state is tasked in developing a Radiation Surge CONOPS for response to a patient exposed to radiation, as this document serves for IN. In addition, states are responsible for participating in regional based exercise. Other Region V states each maintain their own frontline and treatment centers. States are responsible for communicating with the region and HHS regarding radiation surge patients and status.

3. **Medical Emergency Radiological Response Team, Veterans Health Administration (MEERT)**

The Medical Emergency Radiological Response Team (MERRT) is a specialized team of Veterans Health Administration (VHA) health professionals that can support federal, state, and local response to radiological incidents. They can be deployed to an off-site location to provide direct patient care and technical advice.

4. **Great Lakes Healthcare Partnership (GLHP)**

The GLHP is a 501(c)(3) not-for-profit organization made up by the Region V states. During a radiation emergency, the GLHP is a resource for information sharing and coordination.

5. **U.S. Health and Human Services (HHS)**

HHS is the lead ESF-8 agency for the federal government. HHS is made of several divisions and organizations that have instrumental roles in the response to radiation surges. The following are several specific organizations and divisions:

Administration for Strategic Preparedness and Response (ASPR)

ASPR is responsible for the implementation of the Healthcare Preparedness Program (HPP), aimed at the preparedness of healthcare and healthcare coalitions. ASPR represents one of two partnerships in the ASPR-CDC cooperative agreements that IDOH participates with. ASPR requires the HPP to consider the local risks for radiation mass casualty events (e.g., power plant, industrial/research, radiological dispersal device, nuclear detonation), the detection and dosimetry equipment for EMS/hospitals, decontamination protocols, on-scene triage/screening, assembly center, and community reception center activities, treatment protocols/information, coordination mechanisms with hematology/oncology centers, and the Radiation Injury Treatment Network (RITN).

In the event of a confirmed radiation patient surge, the ASPR will provide direct support to the state, through a combination of resources from medical and public health personnel to resources such as medical supplies and equipment from the Division of Strategic National Stockpile.

Centers for Disease Control and Prevention (CDC)

The CDC is responsible for the public health welfare of the US. The CDC is responsible for providing guidance and assistance to state and local health departments during a radiation surge and other times of need. The CDC maintains an Emergency Operations Center which

would be notified in the radiological event and would participate in the IDOH coordination calls.

F. Other Agencies and Organizations

Several other agencies play a role in the overall response to a radiation surge, from local emergency management, the American Red Cross, Indiana Hospital Association (IHA), Indiana Family Social Services Administration (FSSA), and others that have a role in information management, resource provision and coordination, or other aspects of public health and healthcare.

VI. Plan Development and Maintenance

A. Development

The planning and preparedness section of the Division of Emergency Preparedness (DEP) has the responsibility of creating, maintaining, training, exercising and updating IDOH emergency plans. The section also has the responsibility of supporting plan development by providing relevant trainings to foster plan development.

B. Maintenance

1. Requirements

The DEP will maintain, distribute, and update the Radiation Surge State Operations Plan. Responsible officials in state or local agencies should recommend changes and provide updated information periodically (e.g., changes of personnel and available resources). Revisions will be forwarded to people on the distribution list.

2. Review and Update

The Radiation Surge State Operations Plan and its appendices should be reviewed periodically to ensure that the information contained is accurate and current. IDOH DEP must establish a process for the annual review of planning documents by those tasked in those documents, and for preparation and distribution of revisions or changes. Changes should be made to plans and appendices when the documents are no longer current. Changes in planning documents may be needed:

    i.   When hazard consequences or risk areas change
    ii.   When the concept of operations for emergencies changes

iii. When departments, agencies, or groups that perform emergency functions are reorganized and can no longer perform the emergency tasks laid out in planning documents

iv. When warning and communications systems change

v. When additional emergency resources are obtained through acquisition or agreement, the disposition of existing resources changes, or anticipated emergency resources are no longer available

vi. When a training exercise or an actual emergency reveals significant deficiencies in existing planning documents

Methods of updating planning documents

1) Plan Revision

A revision is a complete rewrite of an existing EOP or appendix that essentially results in a new document. Revision is advisable when numerous pages of the document must be updated, when major portions of the existing document must be deleted or substantial text added, or when the existing document was prepared using a word processing program that is obsolete or no longer available. Revised documents should be given a new date and require new signatures by officials.

2) Formal Plan Change

A formal change to a planning document involves updating portions of the document by making specific changes to a limited number of pages. Changes are identified by numbers and are issued to holders of the document with a cover memorandum that has replacement pages attached. The cover memorandum indicates which pages are to be removed and which replacement pages are to be inserted in the document to update it. The person receiving the change is expected to make the required page changes to the document and then annotate the record of changes at the front of the document to indicate that the change has been incorporated into the document.

C. Training and Exercise

1. Training

To best fulfill the requirements laid out by this plan, several trainings should be completed. Through coordination with the Indiana Department of Homeland Security (IDHS), FEMA training consortiums, and local partners (LHDs, HCCs, hospitals, etc.), IDOH supports

continuing education of the public health, healthcare and emergency preparedness community.

2. Exercises

To ensure this plan is feasible and accurate, an exercise or exercises must be completed testing applicable parts or all this plan. When creating a new plan or updating an existing plan, planners should coordinate with exercise staff to ensure that plans are exercised in a timely manner.

VII.   Authorities and References

The following provides Indiana code citations related to radiation surge emergency preparedness and response activities. The following should not be construed to be an exhaustive list. For additional public health preparedness citations, please reference the **IDOH Administrative Preparedness Plan**. These citations may be used as a reference; however, the full text of the law should be consulted before utilizing or enforcing any law during or in preparation for an emergency. Additionally, the IDOH Office of Legal Affairs and local government counsel should be consulted, whenever necessary.

Radiation Surge Emergency Legal Authorities and References		
General		
Code	Usage	Description
IC 10-14-3-11	*Governor's Emergency Powers*	If emergency is beyond local control, the governor can: o Assume operational control of all or part of emergency management functions o Make, amend or restrict orders, rules and regulations o Coordinate with other states or federal government o Employ any measures regarding recommendations from IDOH or local health departments o Use resources from state and local governments o Establish agencies, offices and appoint personnel
IC 10-16-7-7	*Activation of National Guard*	Governor can activate the Indiana National Guard in cases including public disasters and any time the Governor considers necessary

Code	Usage	Description
IC 5-10-13	*Death and Disability Benefits for Emergency and Public Safety Employees*	▪ "Exposure Risk Disease" including anthrax and smallpox ▪ Applies to state and local employees including individuals at high risk for occupational exposure to an exposure risk disease in the line of duty ▪ Applies to employees diagnosed with health condition caused by exposure risk disease which employee was exposed to while in the line of duty
Disaster Declarations/Proclamations		
Code	Usage	Description
IC 10-14-3-12	*Disaster Declaration; Governor's Powers under a Disaster Declaration*	▪ Disaster declaration procedure ▪ Under a disaster declaration the governor can: o Suspend provisions of regulatory statutes o Use state and local resources o Use state agencies and personnel for emergency services o Commandeer or use private property o Assist in evacuations o Suspend or limit the sale of alcohol o Make provisions for temporary emergency housing o Allow out of state health practitioners to practice in Indiana o Give authority to allocate drugs, food, other resources, and services
IC 16-19-4-10 IC 16-41-7.5	*Public Health Emergency Declaration*	State Health Commissioner has the authority to declare a public health emergency
IC 15-17-10-11	*Animal Health Emergency Declaration*	Board of Animal Health has authority to request emergency funding to address animals that are deemed hazardous to citizens or animals of Indiana
IC 10-14-3-29	*Local Disaster Emergency*	Local disaster declarations can be made by the principal executive of the local government. Local governments cannot use a disaster declaration to prohibit individuals employed in emergency public service from traveling on highways within the local jurisdiction.
Radiation Control for Public Health		
IC 16-41-35	*Radiation Control*	Addresses machine produced radiation (Dx/Tx), licensing operators of x-ray machines and registering facilities

		with x-ray machines. There are no references in IC 16-41-35 anymore to byproduct materials or transportation of nuclear waste. There are some general radiation protection statements which probably makes this the appropriate Code. This is the the only radiation Code for IDOH. In 2015, all references to radioactive material were moved to IDHS (IC 10-19-11).
IC 10-19-11	*Radiation & Radioactive Material Control*	Under the Indiana Department of Homeland Security (IDHS). Includes considerations regarding inspection, investigation, regulation of byproduct materials, and special nuclear material, agreement with the Nuclear Regulatory Commission, duty to register source of radiation; registration or licensing of person that produces, uses, stores, or disposes of radioactive materials; and defines duty of person transporting, handling, using, or storing ionizing radiation sources.
IC 10-19-12	*Nuclear Regulatory Agreement*	Under the Indiana Department of Homeland Security (IDHS). Includes components of the Nuclear Regulatory Agreement.

Emergency Rulemaking and Suspension of Laws		
Code	Usage	Description
IC 10-14-3-11 **IC 10-14-3-12**	*Governor suspending laws*	▪ The governor may make, amend, or restrict orders, rules, and regulations during an emergency ▪ The governor may suspend provisions of regulatory statutes during a disaster declaration
IC 10-14-3-22	*State agencies suspending laws*	Indiana state agencies may make, amend, and rescind orders, rules and regulations when necessary for emergency management purposes
IC 10-14-3-22	*Local governments suspending laws*	Local governments may make, amend, and rescind orders, rules and regulations when necessary for emergency management purposes

Limiting Transmission		
Code	Usage	Description
IC 16-18-2-91	*Dangerous Communicable Disease*	Definition of dangerous communicable disease

IC 16-41-6-2	Compulsory Testing for Communicable Diseases	Upon court order, the State Health Commissioner or local health officer can compel examination of an individual who may have a communicable disease or other disease that is a serious and present danger to health
IC 16-18-2-302.6 IC 16-19-3-9 IC 16-41-9	Quarantine	- Definition of quarantine - SHC and local health officers have the authority to quarantine and take measures to prevent and suppress disease - Quarantine procedure
IC 16-18-2-194.5 IC 16-41-9	Isolation	- Definition of isolation - Isolation procedure
IC 16-41-9-5	Mentally Ill, Dangerous, or Gravely Disabled Disease Carrier	State or local health officers may detain an individual carrying a dangerous communicable disease if he/she is deemed mentally ill, dangerous, or gravely disabled
IC 16-19-3-10 IC 16-20-1-24	Closing Schools and Churches and Banning Public Gatherings	- IDOH has the authority to order schools and churches to close and forbid public gatherings to prevent or stop epidemics - Local health officers have the authority to order schools and churches to close and forbid public gatherings to prevent or stop epidemics
IC 16-41-9-3	Excluding Infected Students from Attending School	- Local health officers may exclude a student from school if he/she has a dangerous communicable disease that is transmitted through normal school related contacts and the disease poses a substantial threat to the school community - Students deemed to no longer have the dangerous communicable disease shall be given a certificate of health and readmitted to school
IC 16-20-1-21 IC 16-20-4-18	Local Health Department Communicable Disease Control	Local health departments have the duty and authority to take any action authorized by law or IDOH to control communicable diseases
IC 15-17-10	Diseased Animals	State and federal government can examine, quarantine, and condemn diseased or dangerous animals
IC 16-41-5	IDOH Inspection of Private Property	IDOH has situational authority to enter private property to conduct an inspection of communicable disease.

IC 16-20-1-23	*Local Health Department Inspection of Private Property*	Local health departments have situational authority to enter any premise to inspect, investigate, evaluate, conduct tests, or take samples to determine compliance with public health laws/rules and for prevention and suppression of disease.
IC 10-46-2	*Use of State Funds to Prevent Disease*	Governor may draw state funds at any time to prevent the introduction or spread of contagious and infectious diseases in Indiana

Treatment		
Code	Code	Code
IC 16-41-9-1.7	*Immunizations*	- Immunization programs must include information on benefits and risks of immunization - No adult can be immunized without his/her consent - No child can be immunized without his/her parent/guardian's consent - Individuals who refuse immunization can be subjected to isolation or quarantine
IC 16-19-4-11 IC 25-0.5-11	*Administration of Immunizations by Healthcare Providers*	The State Health Commissioner has the authority to issue a standing order, prescription, or protocol allowing pharmacists and providers regulated by any of the licensure boards listed in IC 25-0.5-11 to administer immunizations
IC 16-38-5-2	*Documentation of Immunizations*	- Providers administering immunizations or their designee must provide immunization data to immunization data registry - No emergency exception
IC 10-14-3-23 IC 16-31-1-3 IC 16-41-1-1	*Exception to compulsory medical treatment*	The government cannot compel an individual to submit to physical examination, medical treatment, or immunization if the individual or his/her guardian decides to rely on spiritual means or prayer to prevent or cure disease or suffering
IC 16-41-16	*Infectious Waste*	Instructions for handling infectious waste

Points of Disbursement (POD)		
Code	Usage	Description

Code	Usage	Description
IC 16-19-11-1 **IC 16-19-11-2** **IC 16-19-11-3**	*Security of IDOH Property*	▪ The State Health Commissioner can appoint security officers to protect properties owned or occupied by IDOH, including the streets passing through or adjacent to those properties. ▪ Appointed security officers have general police powers, including authority to arrest ▪ IDOH can control traffic and parking around IDOH properties
IC 10-14-3-33.5	*Regulation of Firearms during Emergencies*	State and local governments cannot prohibit or restrict the lawful possession, transfer, sale, transportation, storage, display, or use of firearms or ammunition during a disaster emergency, energy emergency, or local disaster emergency. Some exceptions: school property, postsecondary education institutions, emergency shelter care child caring institution, private secure facilities, emergency shelter care group homes, domestic violence shelters, etc.

Surveillance		
Code	**Usage**	**Description**
IC 16-19-10-8	*Counterterrorism Surveillance*	IDOH must report and monitor data on symptoms and health syndromes for outbreaks of dangerous disease and health conditions
IC 16-41-2 **IC 16-41-3** **410 IAC 1-2.5**	*Communicable Disease Surveillance*	IDOH has the authority to make rules establishing reporting, monitoring, and preventing communicable disease
512 IAC 1-2-1 **512 IAC 1-2-2**	*School Attendance Reporting System for Outbreaks*	▪ School corporations and accredited nonpublic schools must develop an attendance system for reporting symptoms and health syndromes from outbreaks or suspected outbreaks of disease or other health conditions that are a danger to public health ▪ When the percentage of students absent equals or is greater than 20%, schools must report the percentage of students absent to the local health department

Licensure		
Code	**Usage**	**Description**

IC 10-14-3-15	*Exceptions to Licensure Requirements for Emergency Management Workers*	Professional, mechanical, or other skill related licensure requirements do not apply to emergency management workers
IC 16-31-3-3	*Exceptions to EMS Certification or Licensure Requirements*	Certification or licensure is not required for an emergency ambulance service, EMT, ambulance, EMS non-transport vehicle, or ALS when providing EMS services during a major catastrophe or disaster when EMS resources are insufficient
IC 16-31-3.5-2	*Exceptions to Emergency Medical Dispatch Requirements*	Training requirements for emergency medical dispatchers does not apply during a major catastrophe or disaster when emergency medical dispatch resources are insufficient
IC 10-14-5-5	*Exceptions to Licensure Requirements related to EMAC resources*	▪ Individuals with professional, mechanical, and other skills who are requested through EMAC will be considered licensed in the receiving state if they are licensed in any EMAC member state. ▪ The governor of the receiving state can put limitations and conditions on the scope of practice of these individuals.
IC 10-14-6.5-5	*Exceptions to Licensure Requirements related to interstate mutual aid resources*	▪ Emergency responders licensed in another state are licensed in Indiana when providing aid related to an interstate mutual aid agreement ▪ The emergency responders' scope of practice is limited to the responders' license and the equivalent license in Indiana

Legal Immunities		
Code	Usage	Description
PREP Act	*Immunity for Administration or Use of Countermeasures*	▪ Federal law that provides immunity from liability for claims of loss related to administration or use of countermeasures ▪ Secretary of Health and Human Services can issue a PREP Act declaration at any time, not just during emergencies ▪ Excludes acts of willful misconduct ▪ Current declarations include pandemic influenza countermeasures

Code	Usage	Description
IC 34-30-13.5	*Immunity for Healthcare Providers and Facilities*	- Only applies when the governor has declared a disaster - Applies to health care services, provided before, after, or during the disaster declaration, in response to an event that resulted in a disaster declaration - Health care provider must be licensed in Indiana
IC 34-30-12.5	*Immunity for Healthcare Provider Providing Smallpox Immunization*	- Healthcare Provider includes physicians, healthcare facilities, nurses, paramedics and EMTs, and their medical staff - Healthcare Provider administering medical countermeasure against an actual or potential bioterrorist incident or public health emergency is immune from civil liability for any injury or damage resulting from the administration of the medical countermeasure - Applies only when federal government authorizes IDOH to administer medical countermeasures
IC 16-31-6-4	*Immunity for Paramedics and EMTs*	EMS, government, and healthcare individuals/entities are not liable for acts or omissions by paramedics or EMTs while treating a patient in good faith in connection with a disaster declaration for an act of terrorism
IC 16-39-7-1	*Immunity for Destruction of Health Records*	A provider is not liable for destroying or failing to maintain a health record, in good faith, in connection with an emergency declaration or other disaster
IC 25-38.1-4-7	*Immunity for Veterinarians*	Veterinarians and veterinary technicians are immune from damages to the owner of an animal the veterinarian or veterinary technician provides emergency treatment to, including euthanasia

Emergency Mutual Aid		
Code	**Usage**	**Description**
IC 10-14-3-10.8 IC 10-14-3-16 IC 10-14-3-17 844 IAC 5-9-8	*Indiana Intrastate Mutual Aid Compact*	Creates a mutual aid compact between participating local governments, fire departments, and private individuals in Indiana
IC 10-14-5	*Emergency Management Assistance Compact (EMAC)*	Indiana may request emergency resources from and provide emergency resources to other states participating in EMAC

		• The requesting state will reimburse the providing state for any loss, damage, or expense related to provided resources, unless the providing state determines reimbursement is unnecessary
IC 10-14-6.5	*Interstate Mutual Aid Agreement*	• State or local governments may enter into mutual aid agreements with state or local governments of other states for emergencies that do not require a state or local emergency declaration
IC 10-14-3.5	*Uniform Emergency Volunteer Health Practitioners Act*	Registered volunteer health and veterinary health practitioners licensed in Indiana, or another state can provide services in Indiana while an emergency declaration is in effect

APPENDIX A: ACRONYM LIST

Acronym	Term
ADA	Americans with Disabilities Act
ALARA	As Low as Reasonably Achievable
ARS	Acute Radiation Syndrome
ASPR	Administration for Strategic Preparedness and Response
BGAN	Broadband Global Area Network
BOAH	Board of Animal Health
CBRNE	Chemical, Biological, Radiological, Nuclear, and Explosives
CDC	Centers for Disease Control and Prevention
CERC	Crisis and Emergency Risk Communication
C-MIST	Communications, Medical, Independence, Supervision, Transportation
CONOPS	Concept of Operations
COOP	Continuity of Operations
CRI	Cutaneous Radiation Injuries
DEP	IDOH Division of Emergency Preparedness
DIL	Derived Intervention Level
DMHA	Division of Mental Health and Addiction
DOC	Department Operations Center
DOE RAP	Department of Energy Radiation Assistance Program
DTPA	Diethylenetriamine Pentaacetate
EAS	Emergency Alert System
EMAC	Emergency Management Assistance Compact
EMS	Emergency Medical Services
EOC	Emergency Operations Center
EOF	Emergency Operations Framework
EPA	US Environmental Protection Agency
ESF	Emergency Support Function
ESSENCE	Electronic Surveillance System for the Early Notification of Community-Based Epidemics
FEMA	Federal Emergency Management Agency

FERN	Food Emergency Response Network
FOA	Funding Opportunity Announcements
FRMAC	Federal Radiological Monitoring and Assessment Center
FSSA	Indiana Family Social Services Administration
GAR	Governor's Authorized Representative
GLHP	Great Lakes Healthcare Partnership
HazCollect	All-Hazards Emergency Message Collection System
HAZMAT	Hazardous Materials
HCC	Healthcare Coalition
HCW	Healthcare Workers
HHS	Health and Human Services
HPP	Hospital Preparedness Program
HSPD-5	Homeland Security Presidential Directive 5
IC	Incident Commander
ICS	Incident Command System
IDEM	Indiana Department of Environmental Management
IDEP	IDOH Infectious Disease Epidemiology and Prevention Division
IDHS	Indiana Department of Homeland Security
IDNR	Indiana Department of Natural Resources
IDOA	Indiana Department of Administration
IDOC	Indiana Department of Corrections
IDOE	Indiana Department of Education
IDOH	Indiana Department of Health
IDOL	Indiana Department of Labor
IEMS	Indianapolis Emergency Medical Services
IHA	Indiana Hospital Association
IHAN	Indiana Health Alert Network
INDOT	Indiana Department of Transportation
INNG	Indiana National Guard
IPAWS	Integrated Public Alert and Warning System
IPSC	Integrated Public Safety Commission

ISP	Indiana State Police
IURC	Indiana Utility Regulatory Commission
JFO	Joint Field Office
JIC	Joint Information Center
KI	Potassium Iodide
LHD	Local Health Department
LRN	Laboratory Response Network
MEERT	Medical Emergency Radiological Response Team
MRC	Medical Reserve Corps
NIMS	National incident Management System
NOAA	National Oceanic and Atmospheric Administration
NRC	Nuclear Regulatory Commission
NWS	National Weather Service
OFBCI	Office of Faith-Based & Community Initiatives
OPA	IDOH Office of Public Affairs
OSHA	US Occupational Safety and Health Administration
PAG	Protective Action Guideline
PHEP	Public Health Emergency Preparedness
PIO	Public Information Officer
PPE	Personal Protective Equipment
QPA	Quantity Purchase Agreement
RDD	Radiological Dispersal Devices
RED	Radiological Exposure Devices
REP	Radiation Emergency Preparedness
REQ-A	Request for Assistance Form
RSSOP	Radiation Surge State Operations Plan
RITN	Radiation Injury Treatment Network
SCO	State Coordinating Officer
SEOC	State Emergency Operations Center
SERV-IN	State Emergency Registry of Volunteers for Indiana
SIP	Sheltering-in-Place

SME	Subject Matter Expert
SNS	Strategic National Stockpile
SOP	Standard Operating Procedure
SPD	State Personnel Department
UC	Unified Command
VHA	Veterans Health Administration
VHF	Very High Frequency
VOIP	Voice-over internet Protocol
WEA	Wireless Emergency Alert System
WebEOC	Web Based Emergency Operations Center

APPENDIX B

Radiation Emergency PPE Recommendations

January 2023

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TABLE OF CONTENTS

I.   PPE in Radiation Emergencies

Table A.1: Key Information	
Overview:	In a radiation emergency, one's response role, specific tasks and risk of contamination determines the appropriate personal protective equipment (PPE).
PPE Protection:	- PPE **can** protect against[1] - external contamination - Internal contamination via inhalation, ingestion, or absorption through open wounds - other physical hazards (e.g., debris, fire/heat, or chemicals). - PPE **cannot** protect against exposure from high energy, highly penetrating forms of ionizing radiation[2] associated with most radiation emergencies. - Lead aprons worn in diagnostic radiology do not provide sufficient shielding against these kinds of radiation. - See Types of Ionizing Radiation and Shielding Required.
Recommendations:	- PE should include a personal radiation dosimeter whenever there is concern about exposure to penetrating ionizing radiation. - Direct-reading personal radiation dosimeters may be used to monitor radiation dose and can help workers stay within recommended Dose Limits for Emergency Workers. - Direct-reading dosimeters should be worn so that a worker can easily see the read-out and/or hear warning alarms. - Recommended respiratory PPE includes a full-face piece air purifying respirator with a P-100 or High Efficiency Particulate Air (HEPA) filter[3]. - Other respiratory protective equipment (e.g., a simple surgical facemask, N-95 respirators), non-fit tested respirators, or ad hoc respiratory protection do not deliver appropriate or sufficient respiratory protection. - Environmental testing and hazard assessment by a safety professional can help identify hazards and risk levels and direct choices of permissible PPE.

II.   PPE Overview

- Personal protective equipment (PPE): The clothing and/or equipment worn by workers (including first responders and first receivers) to prevent or mitigate serious job-related illness or injury. [4, 5]
  - o Individual PPE elements can include
    - ▪ Respiratory protective equipment
    - ▪ Dermal protective equipment
- PPE ensembles: prescribed sets of individual PPE elements worn together to protect against chemical, radiological, physical, electrical, mechanical, or other occupational hazards

- Protection provided by ensembles should be proportional to the anticipated level of risk.
- When exposures are immediately dangerous to life and health, the most protective PPE ensembles should be worn.
- In less toxic environments, less restrictive PPE ensembles can be chosen.
- No combination of PPE elements can protect against all possible hazards
  - Whenever possible, implement administrative and/or engineering controls as the primary means of limiting worker exposure to environmental hazards.
  - PPE should be used only after administrative and/or engineering controls fail to achieve an acceptable level of worker protection and safety.

III. PPE Classification Systems & Standards

See also PPE Classifications Systems Table

A. Civilian PPE

- Two classification systems used in the United States:
  - Occupational Safety and Health Administration (OSHA) /Environmental Protection Agency (EPA) PPE ensemble classification system[6, 7, 8]
    - Level A (most protective)
    - Level B
    - Level C
    - Level D (least protective)
  - National Fire Protection Association (NFPA) PPE ensemble classification system[9, 10]
    - Class 1 (most protective)
    - Class 2
    - Class 3
    - Class 4 (least protective)

B. US Military PPE

- Mission Oriented Protective (MOPP) gear: six different readiness levels achieved by adding or removing individual MOPP gear ensemble components (See also: table of MOPP readiness levels)[4, 11]
  - MOPP Ready [lowest level of readiness (i.e., no ensemble elements are worn)]
  - MOPP 0
  - MOPP 1
  - MOPP 2
  - MOPP 3
  - MOPP 4 [highest level of readiness (i.e., all ensemble elements are worn)]

IV. PPE Image Galleries

- Respiratory protective equipment
  - Civilian
    - Air-purifying Respirator (APR)
    - Powered Air-Purifying Respirator (PAPR)
    - Supplied Air Respirator (SAR) with Escape Respirator
    - Self-Contained Breathing Apparatus (SCBA)
    - CDC Information about Certified Respiratory Equipment
    - Selected Respiratory Protection Masks
  - Military
    - M40 Mask
    - M50 Mask
- Dermal protective equipment
  - Civilian
    - Clothing
      - Level A Equivalent: Totally encapsulating chemical- and vapor-protective suit
      - Level B Equivalent: Non-gas-tight encapsulating suit
      - Level C Equivalent
      - Level C Equivalent: Bunker gear
      - Level D Equivalent
      - Chemical-resistant overall/coverall/splash suits
      - Chemical-resistant inner suit
    - Chemical-Resistant Gloves
    - Chemical-Resistant Boots and Boot Covers
    - Protective Eyewear
  - Military
    - MOPP Level 0
    - MOPP Level 1
    - MOPP Level 2
    - MOPP Level 3
    - MOPP Level 4
- Personal Radiation Dosimeters

V. Putting on ("Donning"), Taking Off ("Doffing"), and Using PPE for Radiation Emergencies

A. Federal Guidance

- OSHA
  - o Examples of PPE Donning and Doffing Sequences
    - OSHA Best Practices for Protecting EMS Responders during Treatment and Transport of Victims of Hazardous Substance Releases. (PDF - 1.47 MB) (OSHA 3370-11. OSHA, 2009, Appendix M, p. 78)
    - Respirator Safety. Donning (Putting on) and Doffing (Taking off) and User Seal Checks (OSHA, December 2009)

B. Other Resources

- New York City Department of Health and Mental Hygiene Healthcare Emergency Preparedness Program
  - o Personal Protective Equipment (PPE) Donning and Doffing Procedure. NYC Hospital Guidance for Responding to a Contaminating Radiation Incident, (PDF - 1.95 MB) April 2009, Section 2 (pp. 19-20) and Appendix 2.g (pp. A-18 — A-19)
- DOE/FEMA/TEPP
  - o Pre-hospital Practices Handling a Radiologically Contaminated Patient (YouTube - 12 minutes)

VI. First Responder PPE in a Radiation Emergency

A. Who is a first responder?[13]

- In the earliest stages of a mass casualty event or other disaster, first responders are responsible for protecting and preserving
  - o Life (e.g., paramedics, emergency medical technicians, ambulance service personnel)
  - o Property (e.g., firefighters)
  - o Evidence (e.g., law enforcement)
  - o Environment (e.g., HAZMAT teams)
- First responder activities generally occur at the site of the incident
- First responders expected to enter environments immediately dangerous to life and health must have access to PPE that provides the highest levels of skin and respiratory protection

B. Important considerations when selecting first responder PPE in a radiation emergency

- Choice of PPE in a radiation emergency
  - Is made by incident commanders or other on-scene safety officials
  - Is determined by level of risk which is based on
    - Anticipated response role
    - Impact of anticipated on-scene hazards (radioactive and environmental) on response role[9, 14]
    - Risk of contamination (internal, external) with radioactive material

C. Recommended PPE and practices in a radiation emergency (first responders)

Table A.2: First Responder PPE & Practices in a Radiation Emergency	
Emergency Type	Recommended PPE*
Radiation plus chemical and/or biological hazard: "combined hazard" event	• **Before** combined hazard(s) are well characterized: first responders should be instructed to wear PPE ensembles that protect against **anticipated** (potentially multiple) hazards[15] • **After** combined hazards are confirmed: first responders should be instructed to wear PPE ensembles that protect against **identified** hazards[15]
Radiation only event with high risk of contamination (and non-radiation hazards have been excluded): e.g., Radiological Dispersal Device (RDD)	Level C PPE usually provides sufficient respiratory and dermal protection[16]

Radiation only event with high risk of exposure (and non-radiation hazards have been excluded): e.g., Radiological Exposure Device (RED)	• **PPE confers no protection** against high energy, highly penetrating forms of ionizing radiation
	 • Factors that help decrease radiation dose from exposure
	   • Minimizing time spent near a radiation source
	   • Maximizing distance from a radiation source
	   • Increasing the physical shielding between a person and a radiation source

* In all cases where radiation is suspected, first responders should also wear personal radiation dosimeters that enable them to read dose rate and/or accumulated dose in real time

D. Additional sources of information for first responder PPE in a radiation emergency

1. Federal Guidance – HHS Collaborations

   - OSHA/NIOSH Interim Guidance – Aug. 30, 2004: Chemical - Biological - Radiological - Nuclear Personal Protective Equipment Selection Matrix for Emergency Responders: Radiological Dispersal Device (RDD); (See Overview)

- OSHA/ NIOSH Interim Guidance (April 2005): Chemical - Biological - Radiological - Nuclear (CBRN) Personal Protective Equipment Selection Matrix for Emergency Responders; (See Overview)

2. **Other Federal Guidance**

- OSHA Best Practices for Protecting EMS Responders during Treatment and Transport of Victims of Hazardous Substance Releases. (PDF - 1.47 MB) (OSHA 3370-11. OSHA, 2009.)

3. **Other Resources**

- Key Elements of Preparing Emergency Responders for Nuclear and Radiological Terrorism (NCRP Commentary No. 19), National Council on Radiation Protection and Measurements, Bethesda, MD, December 2005. (See Notes on Recommended PPE Guidance)

VII. First Receiver (Hospital Healthcare Worker) PPE in a Radiation Emergency

A. Who is a first receiver?[17]

- A healthcare worker in a hospital or other facility where victims arrive for treatment
- First receivers provide medical care at locations remote from the incident and not at the site of a hazardous material release

B. Important considerations when selecting firsts receiver PPE in a radiation emergency

- Since victims may arrive for treatment contaminated with hazardous materials, first receivers need to protect themselves against secondary contamination by putting on appropriate PPE before delivering medical care
- What is secondary contamination?
  - External contamination or internal contamination of first receivers as a result of handling contaminated patients
  - Secondary contamination has rarely produced significant medical problems in **past radiation events**
- PPE should restrict performance of duties as little as possible
  - Workers are more likely to comply with proper PPE if they are comfortable wearing the ensemble, and it allows them to perform required tasks[15]
  - Operational impact and requirements increase with use of higher levels of PPE (Level A, B, and C)
  - Wearing higher levels of PPE makes sustained delivery of medical care difficult
  - Putting on and wearing of PPE should not delay delivery of care

- o Gloves providing adequate protection should not reduce manual dexterity
- o Double gloving and frequent glove changes are encouraged, especially when working with patients who may not have been fully decontaminated (e.g., those who self-refer to the emergency department [ED] or who arrive by transport with life- and limb-threatening injuries)
  - Taping the inner glove to the sleeve facilitates an easier removal of the outer glove
  - Frequent glove changes help minimize the risk of inadvertent, iatrogenic spread of contamination to uncontaminated areas of a patient, to other patients, to staff members, or to other areas of the ED

C. Recommended PPE and practices in a radiation emergency (first receivers)

Table A.3: First Receiver PPE & Practices in a Radiation Emergency			
Emergency Type	Response Role	Recommended PPE*	Notes, Caveats, & Concerns
Radiation plus chemical and/or biological hazard: combined hazard event	First receivers delivering care to contaminated victims	• **Before combined hazard(s) are well characterized:** first responders should be instructed to **wear PPE ensembles that protect against anticipated hazards**[15] • First receivers may need to wear a higher level of PPE than they are accustomed to wearing until hazard characterization is complete • **After combined hazards are confirmed**: first responders should be instructed to **wear PPE ensembles that protect against identified hazards**[15]	• Higher level PPE ensembles are generally not available in most hospitals[18]
Radiation only event with high risk of contamination (and non-radiation hazards have been excluded): e.g., Radiological Dispersal Device (RDD)	First receivers delivering care to victims **more likely** to be externally contaminated: i.e., healthcare providers working in **pre-decontamination**	• Level C PPE usually provides sufficient level of respiratory and skin protection • Level C PPE should be worn until risk characterization determines that Level D	• Recommended respiratory PPE includes a full-face piece air purifying respirator with a P-100 or High Efficiency

	(triage) and decontamination areas[15, 16, 19]	PPE provides sufficient protection	Particulate Air (HEPA) filter.[3] • Other respiratory protective equipment (e.g., a simple surgical facemask, N-95 respirators), non-fit tested respirators, or ad hoc respiratory protection do not deliver appropriate or sufficient respiratory protection; environmental testing and hazard assessment by a safety professional can help identify hazards and risk levels and direct choices of permissible PPE. • Lead aprons are cumbersome and do not protect against exposure from high-energy, highly penetrating ionizing radiation
	First receivers delivering care to victims **less likely to be externally contaminated**: i.e., healthcare providers working in **post-decontamination areas of the hospital**	• Level D PPE provides sufficient respiratory and skin protection for first receivers working in post-decontamination areas of the hospital; this includes those delivering care to persons who may not yet be decontaminated (e.g., patients who self-refer or who arrive by transport with life- and limb-threatening injuries)	• Do not delay stabilization of any patient to first perform decontamination • Perform life- and limb-saving tasks before managing radiation problems

		• Level D PPE also protects skin and personal clothing against possible splashes of contaminated blood and body fluids (urine, feces, wound drainage, etc.) • Level D PPE is equivalent to Standard Precautions PPE worn in medical facilities as protection against transmission of biohazards from patients to providers	
	First receivers delivering care to victims with suspected or confirmed internal contamination: i.e., healthcare providers working in **post-decontamination areas of the hospital**	• Level D PPE also protects skin and personal clothing against possible contamination from blood and body fluids (urine, feces, wound drainage, etc.) • Level D PPE is equivalent to Standard Precautions PPE worn in medical facilities as protection against transmission of biohazards from patients to providers	• Hospital radiation safety officer or health physicist will routinely monitor work areas and patient blood and body fluids for radioactive contamination or elevated radiation levels
Radiation only event with high risk of exposure (and non-radiation hazards have been excluded): e.g., Radiological Exposure Device (RED)	First receivers delivering care to victims in all areas of the hospital	• Level D (Standard Precautions) PPE should be used by healthcare workers when caring for victims of radiation exposure	• Patients exposed to radiation but not contaminated with radioactive material pose no threat of exposure to healthcare providers

* In all cases where radiation is suspected, first responders should also wear personal radiation dosimeters that enable them to read dose rate and/or accumulated dose in real time

D. Additional sources of information for first receiver PPE in a radiation emergency

1. Federal Guidance

- OSHA Best Practices for Hospital-Based First Receivers of Victims from Mass Casualty Incidents Involving the Release of Hazardous Substances (PDF - 1.93 MB) (OSHA, January 2005)

VIII. References

1. Rojas-Palma C, Liland A, Jerstad AN, Etherington G, del Rosario Perez M, Rahola T, Smith K (eds.). TMT Handbook: Triage, Monitoring and Treatment of people exposed to ionising radiation following a malevolent act (PDF - 11 MB) (TMT Handbook Partners, March 2009)

2. Key Elements of Preparing Emergency Responders for Nuclear and Radiological Terrorism (NCRP Commentary No. 19), National Council on Radiation Protection and Measurements, Bethesda, MD, December 2005. Purchase required.

3. OSHA/NIOSH Interim Guidance - August 30, 2004. Chemical - Biological - Radiological - Nuclear (CBRN) Personal Protective Equipment Selection Matrix for Emergency Responders: Radiological Dispersal Device (RDD) (OSHA, HHS/CDC/NIOSH)

4. Personal Protective Equipment (emedicinehealth)

5. OSHA FACT Sheet: Personal Protective Equipment. (PDF - 286 KB) (OSHA, 2002)

6. Regulations (Standards - 29 CFR 1910.120 Appendix B) General description and discussion of the levels of protection and protective gear. (OSHA)

7. Emergency Management: Personal Protective Equipment. (EPA)

8. ATTENTION EMERGENCY RESPONDERS: Guidance on Emergency Responder Personal Protective Equipment (PPE) for Response to CBRN Terrorism Incidents. Publication No. 2008-132 (HHS/CDC/NIOSH, June 2008)

9. Standard on Protective Ensembles for First Responders to CBRN Terrorism Incidents, 2007 Edition. (NFPA, 1994) (Full document may be accessed on-line with free registration)

10. Standard on Vapor-Protective Ensembles for Hazardous Materials Emergencies, 2005 Edition. (NFPA, 1991) (Full document may be accessed on-line with free registration)

11. NBC Individual Survival Measures (Course #572), Module 2 - Individual Protective Equipment, Lesson 2.6: Mission Oriented Protective Posture (Marine Corps Institute)

12. European Committee for Standardization (CEN) Workshop 43 - Personal Protective Equipment (PPE) for chemical, biological, radiological and nuclear (CBRN) hazards (PPE CBRN) (European Committee for Standardization)

13. Homeland Security Presidential Directive / HSPD-8 (The White House, Dec. 17, 2003)

14. Occupational Safety and Health Administration (OSHA)/National Institute for Occupational Safety and Health (NIOSH) Interim Guidance: Chemical - Biological - Radiological - Nuclear (CBRN) Personal Protective Equipment (PPE) Selection Matrix for Emergency Responders (OSHA, NIOSH, April 2005)

15. NYC Hospital Guidance for Responding to a Contaminating Radiation Incident (PDF - 1.95 MB) (New York City Department of Health and Mental Hygiene, Healthcare Emergency Preparedness Program, April 2009)

16. Stopford BM, Jevitt L, Ledgerwood M, Singleton C, Stolmack M. Development of Models for Emergency Preparedness: Personal Protective Equipment, Decontamination, Isolation/Quarantine, and Laboratory Capacity. (PDF - 4.60 MB) Prepared by SAIC under contract No. 290-00-0023. Agency for Healthcare Research and Quality (AHRQ) Publication No. 05-0099. Rockville, MD, August 2005. (HHS/AHRQ)

17. OSHA Best Practices for Hospital-Based First Receivers of Victims from Mass Casualty Incidents Involving the Release of Hazardous Substances (PDF - 1.93 MB) (OSHA, January 2005)

18. Hospital Preparedness: Most Urban Hospitals Have Emergency Plans but Lack Certain Capacities for Bioterrorism Response. GAO-03-924. (PDF - 2.04 MB) (U.S. Government Accountability Office, August 2003)

19. Hick JL, Hanfling D, Burstein JL, Markham J, Macintyre AG, Barbera JA. Protective Equipment for Health Care Facility Decontamination Personnel: Regulations, Risks, and Recommendations. Ann Emerg Med. 2003 Sep;42(3):370-80. [PubMed Citation]

APPENDIX C

Radiation Surge Job Action Sheets

January 2023

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TABLE OF CONTENTS

I. Burn Specialist Job Action Sheet

Table A.1: Brief Job Description	
Position Description:	The Burn Specialist will provide guidance and develop policy on patient triage, treatment, transportation (including priority for transportation), and referrals/consultation during an incident with significant number of patient patients.
Reports to:	To be determined by individual hospital HICS framework (e.g. Incident Commander or Planning Section Chief)
Minimum Required Qualifications:	• Completion of TRAINING SECTION LINK FOR BURN • Completion of internal HICS training as deemed appropriate by HICS team • Knowledge of the Statewide Indiana Burn Surge Plan and internal hospital surge plan(s)

Read This Entire Position Checklist Before Taking Action

A. Immediate (0-2 hours)

- Read this entire Job Action Sheet and review organizational chart.
- Follow facility ICS process.
- Maintain situational awareness of evolving incident. Obtain briefing from the Incident Commander or Operations Section Chief or another assigned individual.
- Document any decisions and actions made during the response that will be vital in compiling an after report/improvement plan.
  - ICS 214 Form
- Gather information from Casualty Care Supervisor/ED Charge Nurse regarding:
  - Number of expected burn patients and their conditions
  - Hazardous materials or decontamination issues
  - Equipment, staff, or medication shortages/issues
- Determine number of patients that may require transfer.
- Determine patients that may be cared for at the facility and assure appropriate staffing and location with Inpatient Area Supervisor.
- Determine additional staff or materials needed based on expected patient volume and communicate with Logistics Section Chief as required.
- Liaison with community EOC or Regional Healthcare Preparedness Coordinator if multiple hospitals affected to determine transportation resources and timeline.
- Coordinate referral consultation with Casualty Care Supervisor and other inpatient locations and assist with arranging inpatient transfers and transportation.

- Provide expert input into decisions about priority for transfer to referral facility when transportation/referral capacity is limited.
- **Call the referring Burn Center daily for assistance with pain medications, sedation, wound care, nutrition, and other questions. Ascension St. Vincent Burn Center Clinic: 317-338-4400; Eskenazi Health Burn Unit: 317-880-0000.**

B. Intermediate (2-12 hours)

- Assess on-going staff and materials needs based on patient status reports.
- Assist Logistics and Planning Section Chiefs in detailing/obtaining additional resources
  - Recommend substitutions and adaptations as required
  - Provide policy guidance when patient resources must be triaged due to patient volumes or resource shortfalls
- Provide talking points to Public Information Officer to share with media, information on self-decontamination, or other relevant issues.
- Provide guidance on any just-in-time training required.
- Coordinate with Logistics and Planning Section Chiefs to expand/create additional Patient Care areas, if needed.
- Facilitate referrals and consultations as required with other facilities.
- Continue to prioritize and assist with transfer coordination including priority for transfer, safe means of transport, staffing requirements, and in-transit care requirements.
- Determine, with pharmacy, if any specific dosing or formulation issues require action and provide guidance to address these issues.
- Provide guidance and support as needed to clinical areas caring for burn patients.

C. Extended (>12 hours)

- Participate in planning meetings and briefings as required by the Incident Commander or Planning Section Chief.
- Continue to support facility needs for clinical policies and guidance.
- Monitor and anticipate staff and supply issues and work with Logistics and Planning Section Chiefs to remediate issues.
- Monitor and provide support for any ongoing transportation/transfers.
- Provide support for on-site burn care issues and consultations.
- Work with Public Information Officer on messages for the public, staff, and patients.
- Assure rest, nutrition, and psychological support are available for staff, and patients.
- Coordinate with Mental Health Branch Director for support and, if needed, evaluations of mental health of staff.
- Track issues (successes and opportunities) for after-action analysis.
- Upon shift change - brief your relief - including situation update, actions taken, issues and

problems to be addressed, key contacts, and anticipated actions for the subsequent operational period.

D. Demobilization/Recovery

- Return all assigned HICS equipment.
- Upon deactivation of your position, ensure all documentation and operational logs (ICS 214) are submitted to the Operations Section Chief or Incident Commander as appropriate.
- Brief the Operations Section Chief or Incident Commander as appropriate on problems, outstanding issues, and follow-up requirements.
- Submit comments to Operations Section Chief or Incident Commander, as appropriate for discussion and possible inclusion in the after-action report. Topics include:
    - o Review of pertinent positions descriptions
    - o Operation checklist
    - o Recommendation for procedure changes
    - o Section accomplishments and issue

II. Trauma Specialist Job Action Sheet

Table A.2: Brief Job Description	
Position Description:	The Trauma Specialist will provide guidance and develop policy on patient triage, treatment, transportation (including priority for transportation), and referrals/consultation during an incident with significant number of patient patients.
Reports to:	To be determined by individual hospital HICS framework (e.g. Incident Commander or Planning Section Chief)
Minimum Required Qualifications:	• Trauma specialist • Completion of internal HICS training as deemed appropriate by HICS team • Knowledge of the IN Healthcare Surge Plan and internal hospital surge plan(s)

Read This Entire Position Checklist Before Taking Action

A. Immediate (0-2 hours)

- Read this entire Job Action Sheet and review organizational chart.
- Follow facility ICS process.
- Maintain situational awareness of evolving incident. Obtain briefing from the Incident Commander or Operations Section Chief or another assigned individual.
- Document any decisions and actions made during the response that will be vital in compiling an after report/improvement plan.
  - ICS 214 Form
- Gather information from Casualty Care Supervisor/ED Charge Nurse regarding:
  - Number of expected burn patients and their conditions
  - Hazardous materials or decontamination issues
  - Equipment, staff or medication shortages/issues
- Determine number of patients that may require transfer.
- Determine patients that may be cared for at the facility and assure appropriate staffing and location with Inpatient Area Supervisor.
- Determine additional staff or materials needed based on expected patient volume and communicate with Logistics Section Chief as required.
- Liaison with community EOC or Regional Healthcare Preparedness Coordinator if multiple hospitals affected to determine transportation resources and timeline.
- Coordinate referral consultation with Casualty Care Supervisor and other inpatient locations and assist with arranging inpatient transfers and transportation.
- Provide expert input into decisions about priority for transfer to referral facility when transportation/referral capacity is limited.

- Review and provide educational resources to staff as necessary:
  - [HHS: Radiation Emergency Medical Management](#)
- Call Radiation Injury Treatment Network hospitals for assistance with acute radiation syndrome as needed. (Franciscan Health is the only RITN hospital in Indiana.)
- **Call the referring Burn Center daily for assistance with pain medications, sedation, wound care, nutrition, and other questions. Ascension St. Vincent Burn Center Clinic: 317-338-4400; Eskenazi Health Burn Unit: 317-880-0000.**

B. Intermediate (2-12 hours)

- Assess on-going staff and materials needs based on patient status reports.
- Assist Logistics and Planning Section Chiefs in detailing/obtaining additional resources
  - Recommend substitutions and adaptations as required.
  - Provide policy guidance when patient resources must be triaged due to patient volumes or resource shortfalls.
- Provide talking points to Public Information Officer to share with media, information on self-decontamination, or other relevant issues.
- Provide guidance on any just-in-time training required.
- Coordinate with Logistics and Planning Section Chiefs to expand/create additional Patient Care areas, if needed.
- Facilitate referrals and consultations as required with other facilities.
- Continue to prioritize and assist with transfer coordination including priority for transfer, safe means of transport, staffing requirements and in-transit care requirements.
- Determine, with pharmacy, if any specific dosing or formulation issues require action and provide guidance to address these issues.
- Provide guidance and support as needed to clinical areas caring for burn patients.

C. Extended (>12 hours)

- Participate in planning meetings and briefings as required by the Incident Commander or Planning Section Chief.
- Continue to support facility needs for clinical policies and guidance.
- Monitor and anticipate staff and supply issues and work with Logistics and Planning Section Chiefs to remediate issues.
- Monitor and provide support for any ongoing transportation/transfers.
- Provide support for on-site burn care issues and consultations.
- Work with Public Information Officer on messages for the public, staff and patients.
- Assure rest, nutrition, and psychological support are available for staff and patients.
- Coordinate with Mental Health Branch Director for support and, if needed, evaluations of mental health of staff.

- Track issues (successes and opportunities) for after-action analysis.
- Upon shift change - brief your relief - including situation update, actions taken, issues and problems to be addressed, key contacts, and anticipated actions for the subsequent operational period.

D. Demobilization/Recovery

- Return all assigned HICS equipment.
- Upon deactivation of your position, ensure all documentation and operational logs (ICS 214) are submitted to the Operations Section Chief or Incident Commander as appropriate.
- Brief the Operations Section Chief or Incident Commander as appropriate on problems, outstanding issues, and follow-up requirements.
- Submit comments to Operations Section Chief or Incident Commander, as appropriate for discussion and possible inclusion in the after-action report. Topics include:
  - Review of pertinent positions descriptions
  - Operation checklist
  - Recommendation for procedure changes
  - Section accomplishments and issue

III. Hazmat Director Job Action Sheet

Table A.3: Brief Job Description	
Position Description:	The HazMat Director will ensure the decontamination area is properly staffed and stocked during an emergency. The director will also ensure staff members are able to complete decontamination procedures correctly, to keep everyone safe.
Reports to:	To be determined by individual hospital HICS framework (e.g. Incident Commander or Planning Section Chief)
Minimum Required Qualifications:	• HazMat specialist • Completion of internal HICS training as deemed appropriate by HICS team • Knowledge of HazMat procedures and internal hospital surge plan(s)

Read This Entire Position Checklist Before Taking Action

A. Immediate (0-2 hours)

- Read this entire Job Action Sheet and review organizational chart.
- Follow facility ICS process.
- Obtain briefing from the Incident Commander or Operations Section Chief or other assigned individual.
- Document any decisions and actions made during the response that will be vital in compiling an after report/improvement plan.
  - ICS 214 Form
- Implement the hospital's Decontamination Plan:
  - Establish triage and decontamination areas with a clear perimeter and directions on ingress and egress.
  - Provide rapid triage and disposition of potentially contaminated patients, non-contaminated patients, media, family members, etc.
  - Access radiation monitoring equipment for use in decontamination operations.
  - Implement staff monitoring in and rotation through the decontamination area.
  - Consult with Medical-Technical Specialist: Radiological, Radiation Emergency Assistance Center/Training Site (REAC/TS) and Radiation Emergency Medical Management (REMM), and internal and external agencies or consultants to ascertain treatment protocols.
  - Relocate medications and antidotes to clinical care and decontamination areas.
  - Consider the need for evidence collection.

B. Intermediate (2-12 hours)

- Determine the need for ongoing staff or other support.
- Assess the need for continued decontamination and monitoring activities based on current and projected event status.

C. Extended (>12 hours)

- Provide for hospital and equipment decontamination where appropriate.
- Coordinate with Mental Health Branch Director for support and, if needed, evaluations of mental health of volunteers and children.
- Document all action/decisions.
- Identify issues for after-action analysis.

D. Demobilization/Recovery

- Return all assigned HICS equipment
- Ensure that all personnel, supplies, and equipment utilized in the response have been properly decontaminated and stored.
- With Infrastructure Branch Director, monitor and manage decontamination of hospital.
- Finalize and distribute Demobilization Plan.
- Brief Supervisor on current conditions, issues, and follow-up requirements.
- Upon deactivation of your position, ensure all documentation and operational logs (ICS 214) are submitted to the appropriate HICS position.
- Conduct debriefings and hotwash with:
  - Command Staff and section personnel
  - Administrative personnel
  - All staff
  - All volunteers
- Submit comments to supervisor for discussion and possible inclusion in the after-action report. Topics include:
  - Review of pertinent positions descriptions
  - Operation checklist
  - Recommendation for procedure changes
  - Section accomplishments and issue

IV. Medical Technical Specialist – Radiological Job Action Sheet

Table A.3: Brief Job Description	
Position Description:	The Medical Technical Specialist will ensure staff members, volunteers, and other personal understand the issues surrounding radiation. The specialist will also provide their expertise when needed to assist in the response.
Reports to:	To be determined by individual hospital HICS framework (e.g. Incident Commander or Planning Section Chief)
Minimum Required Qualifications:	• Radiological specialist • Completion of internal HICS training as deemed appropriate by HICS team • Knowledge of radiation exposure procedures and internal hospital surge plan(s)

Read This Entire Position Checklist Before Taking Action

A. Immediate (0-2 hours)

- Read this entire Job Action Sheet and review organizational chart.
- Follow facility ICS process.
- Obtain briefing from the Incident Commander or Operations Section Chief or other assigned individual.
- Document any decisions and actions made during the response that will be vital in compiling an after report/improvement plan.
  - ICS 214 Form
- Assist in obtaining specific information regarding radiological agent such as antidotes, treatment, decontamination procedures, etc.
- Provide expert input in the Incident Action Planning process.
  - Assist the Incident Commander in determining the radiological threat to the hospital and the need for shelter-in-place or hospital evacuation.

B. Intermediate (2-12 hours)

- Support the Operations Section, as needed, by coordinating information regarding specific decontamination and treatment procedures; provide direct oversight to decontamination operations as directed.
- Continue to provide expert input into the Incident Action Planning process

C. Extended (>12 hours)

- Continue to support the Operations Section as needed by coordinating information regarding specific decontamination and treatment procedures.
- Continue to provide expert input into the Incident Action Planning process.

D. Demobilization/Recovery

- Continue to help coordinate patient care services returning to normal operations.
- Brief Supervisor on current conditions, issues and follow-up requirements
- Upon deactivation of your position, ensure all documentation and operational logs (ICS 214) are submitted to the appropriate HICS position
- Submit comments to supervisor for discussion and possible inclusion in the after-action report. Topics include:
  - o Review of pertinent positions descriptions
  - o Operation checklist
  - o Recommendation for procedure changes
  - o Section accomplishments and issue

# APPENDIX D: NUCLEAR POWER PLANT MAPS

I.   Donald C. Cook Nuclear Plant – Bridgeman, MI

The Donald C. Cook Nuclear Plant has two PWRs, with 1,056 megawatt and 1,100-megawatt capacity, owned by American Electric Power. The units are located 12.5 miles north of Indiana near Bridgman, Michigan.
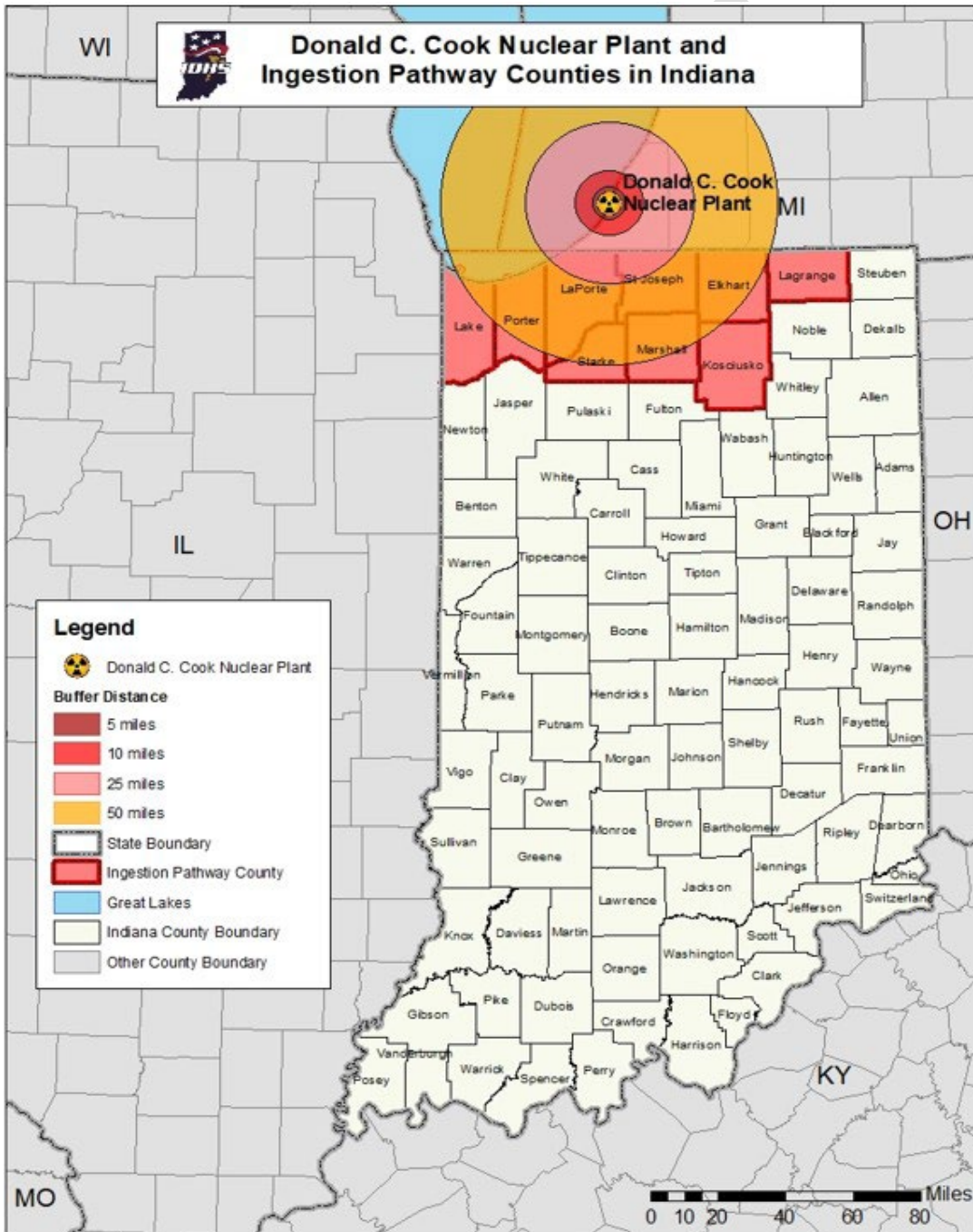
II. Braidwood Station – Braidwood, IL

The Braidwood Station has two each 1120 megawatt pressurized water reactors (PWRs) owned by Exelon Generation. The units are located 35 miles west of Indiana, near Braidwood, Illinois.

Braidwood Station and Ingestion Pathway Counties in Indiana
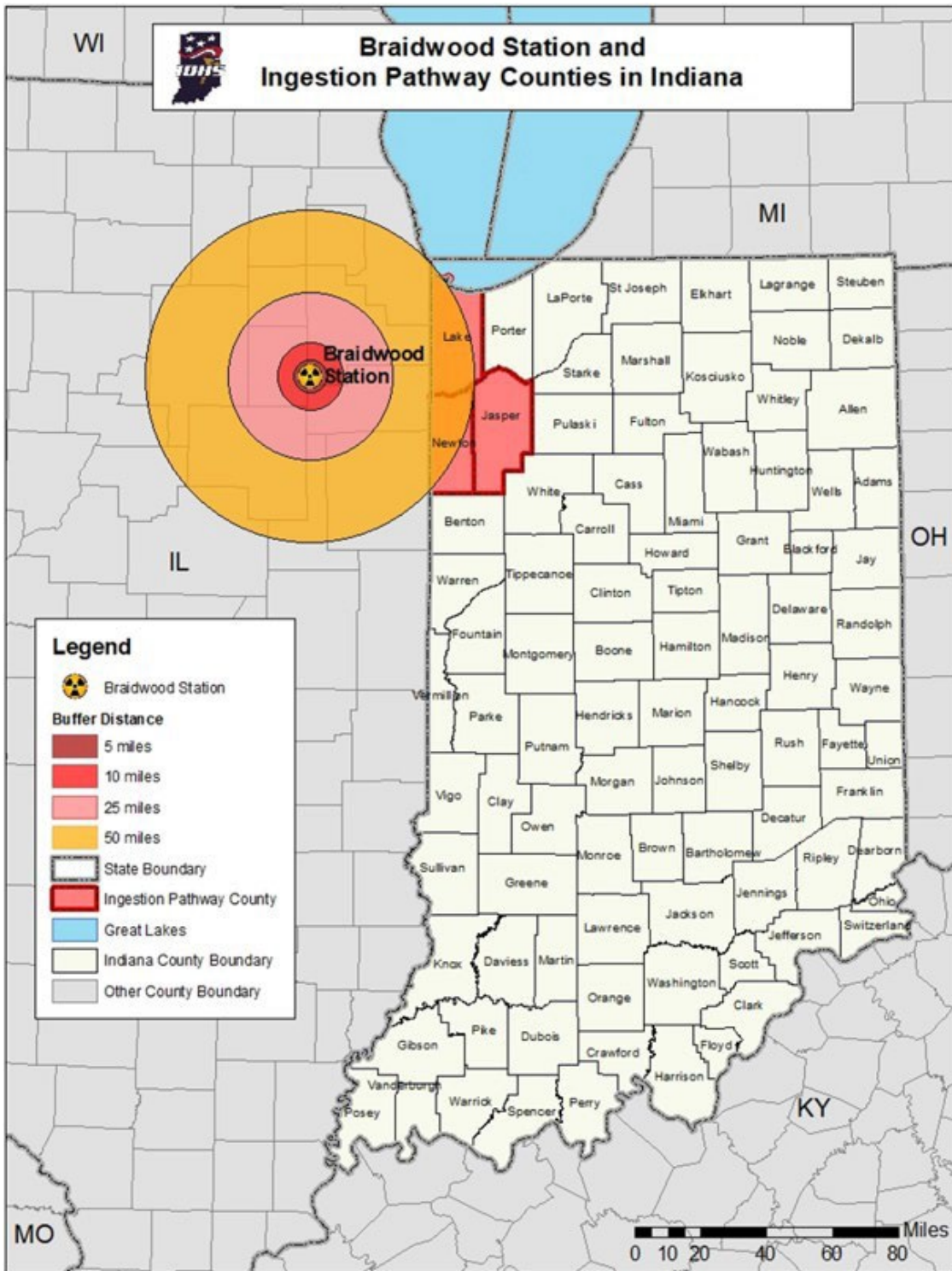
III. Palisades Power Plant – Covert, MI

The Palisades Power Plant is a 768 megawatt PWR owned by the Entergy Corporation. The unit is located 39.2 miles north of Indiana, near Covert, Michigan.
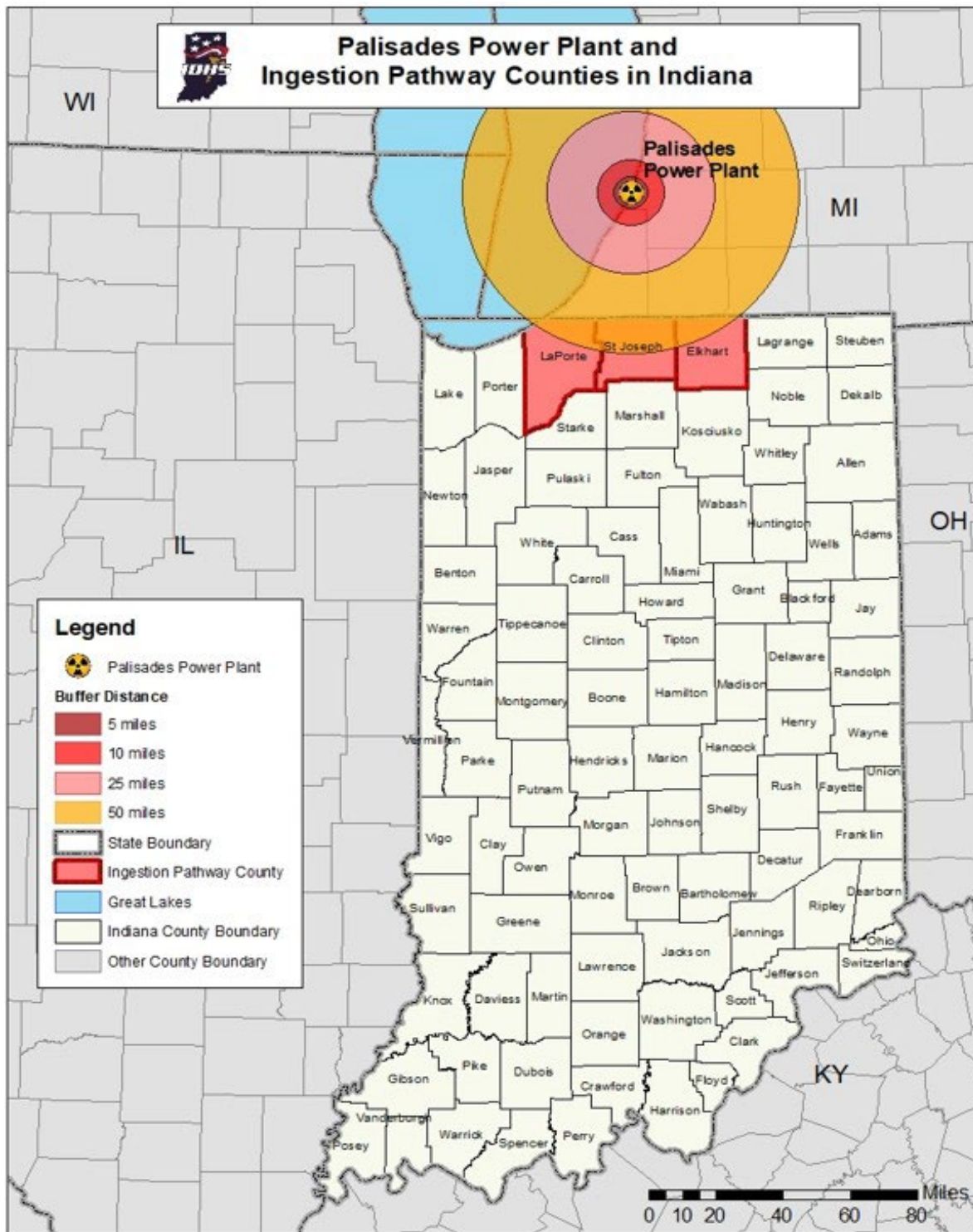
IV. Dresden Nuclear Power Plant – Morris, IL

The Dresden Nuclear Power Plant has two-794 megawatt boiling water reactors (BWRs) owned by Exelon Generation. The units are located 38 miles west of Indiana in Morris, Illinois.

Dresden Nuclear Power Plant and Ingestion Pathway Counties in Indiana