ESF #16 –RADIOLOGICAL PROTECTION

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Primary Agency:	Miami County Emergency Management Agency (MCEMA)
Support Agencies:	Local Fire Service Organizations Local Law Enforcement Agencies Miami County Hazmat Team Miami County Public Health Ohio Department of Health (ODH) Ohio Emergency Management Agency (OEMA) Ohio Environmental Protection Agency (OEPA) Ohio State Fire Marshal (OSFM) US Department of Homeland Security (US DHS) US Department of Defense (US DOD) US Department of Energy (US DOE) US Environmental Protection Agency (US EPA) Nuclear Regulatory Commission (NRC)
Related Federal ESFs:	Nuclear/Radiological Incident Annex of NRF
Ohio Revised Code:	4905, 3748 Radiation Control Program

I. INTRODUCTION

A. PURPOSE

The purpose of this Emergency Support Function (ESF) is to provide guidance and authority to radiological protection relating to unique demands expected to be generated or associated with a nuclear detonation, as well as with peacetime hazards involving radioactive materials. This ESF identifies the aspects, concepts, organizational responsibilities, and resources that will be used to reduce the potential impact of radiological or nuclear incidents in Miami County.

B. SCOPE

1. Provides an organized capability of notification, detection, monitoring, reporting, and analysis of Miami County and its key workers and residents of radiological fallout.
2. Applies to radiological incidents, including sabotage, and terrorist incidents, that involve the release or potential release of radioactive material that poses an actual or perceived hazard to public health, safety, and/or the environment.
3. Provides planning guidance and outlines operational concepts for the response to radiological incidents.

4. Specifies the roles and responsibilities of response agencies that provide for prevention, response, and recovery from radiological incidents.
5. Includes guidelines for notification, coordination, and leadership of local activities, and coordination of public information.
6. Predetermines measures to take to ensure continuity of government operations in the wake of a radiological incident.
7. Clarifies administrative and logistical support to emergency operations related to radiological response, and the actions to be taken to obtain outside assistance from regional, state, or federal government, and non-government organizations.
8. Outlines maintenance, training, and exercise requirements as they pertain to radiological preparedness.
9. Nuclear Power Plant emergency response activities are beyond the scope of this Emergency Support Function (ESF). Such activities are identified in the *Ohio Plan for Response to Radiation Emergencies at Licensed Nuclear Facilities.*

II. PLANNING ASSUMPTIONS AND CONSIDERATIONS

A. SITUATIONS

1. Radiological materials have many uses and serve a very important purpose in our country. Some of there most common uses include:
   a. Used by doctors to detect and treat serious diseases.
   b. Used by educational institutions and companies for research.
   c. Used by companies in the manufacture of products.
   d. Used as a critical base material to help produce the commercial electrical power that is generated by a nuclear power plant.
2. Radioactive materials may occasionally be discovered in scrap yards, landfills, residences, and other places in the public domain.
3. The detonation of a nuclear weapon would cause a radiological hazard that differs markedly from that posed by peacetime hazards in the extent of the area affected and in the intensity of the radiation. It is not possible to predict the size of an attack or the specific areas that would be directly affected. The number of weapons could be one, as in an accidental launch or terrorist incident, or it could be many, as in an all-out attack on military forces.

4. The possibility of a nuclear attack on the United States is considered remote. The threat of a transportation accident involving radioactive sources is the primary concern for Miami County.
5. Miami County could be affected by a terrorism event involving radioactive or nuclear materials. Such events may include Radiological Dispersion Devices (RDD) or Improvised Nuclear Devices (IND).
6. Radiological incidents will require certain capabilities that are beyond the scope of Miami County's resources.
7. Radiological instruments have been issued from the Ohio Emergency Management Agency (OEMA) to the Miami County Emergency Management Agency (MCEMA).

B. ASSUMPTIONS

1. Radioactive materials discovered in scrap yards, landfills, residences, and other places in the public domain could pose a hazard to people or the environment. Potential hazards may include contamination and exposure.
2. Shipments of limited quantities of radioactive materials occasionally become involved in accidents and could yield a release of contents. However, the potential contamination and/or exposure hazards from such events are assumed to be low.
3. Large quantities of radioactive materials are shipped in special containers designed to withstand severe accident conditions. Such containers can contain amounts of radioactive material that if released due to accident, could cause serious health and safety issues over large areas due to contamination and/or exposure.
4. The detonation of an IND may involve hundreds of thousands of casualties, whereas the detonation of an RDD can involve few casualties, but mass panic.
5. If a large number of persons are displaced, shelters can be opened.

III. CONCEPT OF OPERATIONS

A. GENERAL

1. The discovery of unlicensed radiological sources, transportation incidents, or fixed facility incidents where radiological materials are involved fall within the realm of hazardous materials emergency response. Actions should be taken in conjunction with ESF #10 – Hazmat Response.

2. Peacetime IND and RDD terrorism preparedness should be ongoing during peacetime. The principal elements include plans, procedures, training, equipping, and exercising response forces.
3. If an incident involving an IND or RDD actually occurs, the Emergency Operations Center (EOC) at the Ohio Emergency Management Agency (OEMA) will provide information on when state and federal-level emergency actions can be undertaken and how to minimize the radiation danger to emergency services personnel.
4. ESF #10 of the National Response Framework (NRF) provides for a coordinated federal response to actual or potential oil and hazardous materials incidents including radiological substances.

B. NOTIFICATION AND MOBILIZATION

1. The following notification should be made immediately following the discovery of a radiological or nuclear incident.

Notification Matrix		**Transportation**	**Terrorism**
Local Law, Fire, EMS	911	X	X
Local Hazardous Materials Response Team	911	X	X
Miami County EMA	(937) 440-9911	X	X
Upper Valley Medical Center	(937) 440-4000	X	X
Ohio Department of Health	(614) 644-2727	X	X
Ohio Emergency Management Agency	(614) 889-7150	X	X
Ohio National Guard, 52nd CST	(614) 336-6597	X	X
Ohio Environmental Protection Agency	(800) 282-9378	X	X
Public Utilities Commission of Ohio	(614) 644-5479	X	
National Response Center *(if RQ is involved)	(800) 424-8802	X*	
Miami County LEPC	(937) 440-9911	X	X

2. If an accident occurs in/or affects Miami County, and falls within the emergency action level classification system, the EMA Director will inform the state and local government.
3. Once notified, the governor shall immediately evaluate the situation and may declare a State of Disaster. Once a State of Disaster has been declared, all state resources would be activated.
4. The public warning system is a multi-tiered alert and notification system.
   a. The MCCC has a mass notification system for alerting the public and first responders. These systems are the Hyper-Reach and the HipLink.
   b. The Emergency Alert System can be used to notify the public with television and radio broadcasts.
   c. Localized areas can be contacted by first responders using vehicle public address systems

C. EMERGENCY OPERATIONS CENTER COORDINATION

1. Upon a Governor's State of Disaster Declaration, the Miami County Emergency Operations Plan (EOP) and Emergency Operations Center (EOC) will be activated, if not already activated.
2. Miami County would activate its EOC staff and their respective forces in a timely manner to provide support of the various emergency tasks.
3. An Ohio Emergency Management Agency (OEMA) Regional Disaster Services Representative will provide state level liaison to the Miami County EOC to assure that a coordinated response and exchange of information takes place between the state and local government. Miami County shall maintain contact with the OEMA Disaster Services Representative throughout the disaster situation.
4. If Miami County needs assistance, they may request it through the state. Under a Governor's State of Disaster Declaration, state resources may be utilized to assist Miami County. If the state needs extra resources, it may request that a presidential disaster declaration be made. The various agencies of the federal government may also be available to provide assistance on these bases.

D. COMMUNICATIONS

1. The communications link between the Miami County EMA/EOC, surrounding counties EOC, State EOC and Joint Information Center (JIC) will be telephone line

and on-line resources. An alternate communications link can be established utilizing MARCS radio system or amateur radio.

2. A coordinated communication link exists for fixed facilities and mobile medical support from the Miami County Communication Center by radio, on-line sources, or telephone.

E. INSTRUMENT DISTRIBUTION

1. The OEMA Radiological Instrument Maintenance and Calibration Facility (RIMC) provides radiological detection equipment to each county for use by appropriate local response forces.
2. Guidance for use of radiological instruments is available through OEMA and Ohio Department of Health.
3. The MCEMA will control the distribution of radiological assessment equipment and assure proper training in the employment of this equipment. The MCEMA will maintain a list of the equipment provided to local response organizations.
4. Local agencies receiving assessment equipment will be responsible for maintaining exposure control records for personnel.
5. Miami County's off-site radiological equipment is located inside Hazmat #1.
6. The Miami County Hazmat Team's Equipment Officer shall inspect, inventory, and operationally check emergency equipment and instruments at least once every three (3) months and after each use. There shall be sufficient reserves of instruments and equipment to replace those that are removed from emergency kits for calibration or repair.

F. EXPOSURE CONTROL RECOMMENDATIONS

1. Control of exposure to ionizing radiation is achieved through limiting the time spent in the area, maximizing the distance from the source and providing shielding from the source.
3. Recommendations may include population evacuation, shelter-in-place, and exposure sharing by response workers. (See ESF #17 – Evacuation).
4. The DOT Emergency Response Guidebook can be used to determine initial safe zones and evacuation boundaries.

G. RE-ENTRY AND RECOVERY

1. In coordination with the state government, initiate re-entry/recovery actions. Local government shall be responsible to carry out the following tasks concerning recovery and re-entry.
   a. Decontamination of people and property.
   b. Continued security of evacuated areas.
   c. Health and medical services for evacuees.
   d. Mass care, welfare and counseling services.
   e. Monitoring of people and property.
   f. Transportation.
   g. Continued public information messages.
   h. Scheduling and controlling re-entry.
   i. Developing a summary report of the accident.

IV. ORGANIZATION AND ASSIGNMENT OF RESPONSIBILITIES

A. ORGANIZATION

1. All Miami County response personnel will utilize an Incident Command System (ICS) as outlined in the National Incident Management System (NIMS) when responding to radiological emergencies.
2. The MCEMA will activate its EOC to coordinate response activities between the local and state levels.
3. The Ohio Department of Health (ODH) is the radiation protection and licensing authority in Ohio.
4. Federal resources may be necessary for large-scale incidents and/or incidents of national significance. Federal resources are coordinated through the OEMA.
5. All emergency response personnel shall be notified and informed of the severity, nature of the incident, and the extent to which they should mobilize their personnel by the MCCC, upon direction by the Emergency Management Director or the IC.

B. ROLES AND RESPONSIBILITIES

1. Miami County Board of Commissioners President (Chief Executive)
   a. In the event that a release has occurred and is projected to impact Miami County or there is imminent threat thereof, consider declaring a state of emergency, and activating this plan.

b. Implement the necessary protective actions and coordinate the disaster relief forces of the county.

c. May request that the Governor of the State of Ohio declare a State of Disaster which can activate the state Emergency Operations Plans (EOPs).

2. Miami County EMA

a. Inspect, inventory, and operationally check emergency equipment and instruments at least once every three (3) months and after each use. There shall be sufficient reserves of instruments and equipment to replace those that are removed from emergency kits for calibration or repair.

b. Contact and brief the Miami County Board of Commissioners President and recommend appropriate action, including advising of the necessity to activate the EOP.

c. Activate the EOC under the authority of the County Commission following the procedures outlined in Direction and Control section of this plan.

d. Notify the Ohio Department of Health of any releases of radiological material.

e. Notify the OEMA and coordinate requests for state-level technical assistance.

f. Responsible for radiological incident plans and preparedness.

g. Review and update plans and preparedness on an annual bases and as necessary (e.g. following drills, exercises, critiques, etc.).

h. Provide and/or organize training for local emergency response workers.

i. Distribute radiological assessment equipment to the Miami County Hazmat team.

j. Prepare damage assessment reports for submission to the state/federal government.

3. Public Information Officer (PIO)

a. On a regional level the PIO is responsible for gathering pertinent public information from the EOC staff, public health officials, agricultural agencies and veterinarians ensuring that the information is current and accurate, and obtaining approval from the Executive Committee to provide this information to a regional Joint Information Center (JIC).

b. On a county-wide or smaller level, the JIC is responsible for gathering pertinent public information from the EOC staff, public health officials, agricultural agencies, veterinarians, and ICs ensuring that the information is current and accurate, formulate the message to the public and obtain approval from the Executive Committee before disseminating.

c. The PIO in the Miami County EOC shall be designated as the EOC-PIO. In addition, a PIO for Miami County will be present at the JIC.
d. The Miami County PIO will disseminate applicable emergency information to the media in accordance with normal day-to-day procedures or from the EOC.
e. The JIC is the facility where other public information officers from local communities, surrounding counties, the State of Ohio, and the Federal Emergency Management Agency (FEMA) will gather to form the Joint Public Information Team (JPIT). The JIC is the facility designated as the point of contact and physical location for use by the news media in the event of a large-scale radiological accident.
f. News briefings will be held at least daily for the duration of an emergency. More frequent briefings will be held as necessary.
g. Provide public inquiry information as it affects county government.
h. Identify special communications channels where the public can receive personalized information.
i. Rumors will be controlled through accurate and timely public information releases.
j. Establish a call center for public questions, rumor control
k. Maintain records of all inquiries and responses.

4. Law Enforcement Official
   a. In order to carry out their emergency tasks, establish a Unified Command Post outside the perimeter of the warm zone
   b. Provide security at the Miami County EOC if needed and/or requested by the Emergency Management Director and/or the County Commission. Limit access to authorized personnel only.
   c. In the event the primary notification systems fail the law enforcement organization can provide for backup warning. Utilizing law enforcement vehicles with sirens to attract attention and the public address systems to provide instruction/information, the law enforcement personnel could warn the populace.
   d. In the event protective measures such as in-place sheltering or evacuation are to be issued the law enforcement organization would provide ingress and egress control around the perimeter of the affected area.
   e. Law enforcement should coordinate with the public works organization to ensure that proper barricades and signs are provided to ensure ingress and egress control.

f. If an evacuation is ordered, provide for traffic control within the evacuated area, at the reception/decontamination center and at the congregate care centers.

g. If evacuations take place, confirm, to the extent possible, evacuation of households. This will be accomplished using data compiled at the reception centers and information supplied by the Departments of Health.

h. If an evacuation is ordered, ensure that all traffic impediments are removed, such as stalled vehicles, snow, fallen trees, etc.

5. Fire/EMS Service
   a. In order to carry out their emergency tasks, establish a Unified Command Post outside the perimeter of the warm zone
   b. Hazmat team members that have been properly trained will be used for their radiological monitoring abilities.
   c. Respond in accordance with the local hazardous materials protocols and the Department of Transportations Emergency Response Guidebook (DOT-ERG)
   d. Assess the number and types of injury and coordinate with hospitals equipped to provide treatment and care for individuals with radiological contamination.

6. Public Health
   a. Ensure, through inspections, that the food, water and sanitation arrangements at the shelters are adequate.

7. Public Works
   a. If evacuation appears imminent, assist law enforcement in preparing evacuation routes and in providing necessary materials for traffic control at intersections and access control points (signs, barricades, etc.).
   b. If evacuation is ordered, assist law enforcement with the maintenance of evacuation routes by removing debris impeding traffic flow.
   c. Provide emergency transportation of equipment and materials.

V. CONTINUITY OF GOVERNMENT

A. Lines of succession for agencies with responsibility for radiological incidents are maintained in departmental SOGs.

VI. DIRECTION AND CONTROL

A. The MCEMA will coordinate local response and will work with the ODH Radiological Bureau of Radiation Protection, Ohio National Guard's Civil Support Team and the OEMA through the county EOC, making appropriate radiological assessment and assigning suitable means and measures for the protection of the population, emergency workers, and property.

B. Medical problems will take priority over radiological concerns.

C. On-Scene Actions

1. Fire department and law enforcement officials, using the Incident Command System, will be the primary responders, until the arrival of special response teams.

VII. ESF DEVELOPMENT, MAINTENANCE AND TRAINING

A. This ESF should be updated and reviewed on an annual basis under the direction of the MCEMA Director. The MCEMA Director is responsible for printing and distribution of changes, revisions, and updates to the ESF to all departments, agencies and organization retaining a copy of this plan.

B. MCEMA is responsible for reviewing it and submitting new, or updated information to the MCEMA Director, based upon assessments of exercises, actual events, or changes in governmental structure, assignments, or offices.

C. Organizations with radiological protection duties are responsible for maintaining their own SOGs, mutual aid agreements, 24-hour recall personnel rosters, and resource listings.

D. Training

1. Radiological emergency training can be requested, from the OEMA.
2. Refresher training will be encouraged for those who have previously completed radiological courses.
3. The Ohio Department of Health is the primary provider of hospital radiological training.

E. Exercises

1. Exercises dealing with radiological events may be developed at the request of any response agency or at the discretion of the MCEMA. OEMA can provide assistance in the development and delivery of such exercises.

VIII. LIST OF APPENDICES

Appendix 1 – Radiological Emergency Reporting Checklist

Appendix 2 – Initial Actions for Radiological Incidents Flowchart

IX. AUTHENTICATION

10/27/15
Date

Miami County Hazmat Team Leader

MIAMI COUNTY EMERGENCY OPERATIONS PLAN
APPENDIX 1 TO ESF #16
RADIOLOGICAL EMERGENCY REPORTING CHECKLIST

I. EMERGENCY NOTIFICATIONS

A. Local emergency response forces (Hazmat, fire, law, EMS and Upper Valley Medical Center).
B. Miami County EMA
C. Ohio Department of Health (614) 644-2727.
D. Ohio Emergency Management Agency (614) 889-7150.

II. REQUESTING ASSISTANCE/REPORTING A RADIOLOGICAL INCIDENT

A. Identify the fact that you are calling about a radioactive materials incident.
B. Location and brief nature of the incident, including description of package(s).
C. Injured victim? Yes/No.
    1. Injured victim(s) suspected to be contaminated or exposed?
D. Evidence of release of radioactive material(s)?
E. Evidence of any other hazardous materials involved?
F. Carrier and shipper and/or consignee.
G. Terrain and weather.
H. Personnel and equipment on the scene and actions underway.
I. Your name and call back phone number.
J. If readily available from shipping papers, labels, or package markings, the following will be of value. (Do not delay your call for assistance to obtain this information, you can always call back.)
    1. Shipper's name.
    2. Radioisotope(s).
    3. Number of curies.
    4. White I, Yellow II, or Yellow III labels.
    5. Transport index (TI) of package(s).
    6. Physical and chemical form.

7. Package identification (specification type A or B, certification number, exemption number, etc.)

K. If emergency responders have radiation survey meters and have been properly trained in their use, indicate types of instruments used and reading obtained. However, do not delay communications to get this information.

MIAMI COUNTY EMERGENCY OPERATIONS PLAN

APPENDIX 2 TO ESF #16

INITIAL ACTIONS FLOWCHART

These guidelines are intended for use by emergency response personnel that are properly trained and equipped to perform functions at accidents scenes where radioactive materials are suspected or known to be present. These actions are intended to be guidance for *initial* actions. Actions beyond the initial response phase will be evaluated and determined by the Incident commander.