



Annex J: Emergency Support Function #10 – Hazardous Materials

October 2023

Coordinating Agency:

Hamilton County Local Emergency Planning Committee

Supporting Agencies:

Hamilton County Communications Center
Hamilton County Environmental Services
Hamilton County Public Health
City of Cincinnati Emergency Communications Center
City of Cincinnati Fire Department
Greater Cincinnati Hazardous Materials Unit
Ohio Environmental Protection Agency
Ohio River Valley Water Sanitation Commission
U.S. Coast Guard
U.S. Environmental Protection Agency

Introduction

Purpose

The purpose of Emergency Support Function (ESF) #10 – Hazardous Materials is to establish how activities related to hazardous materials and hazardous material incidents will be coordinated before, during, and after disasters to meet the emergency needs of Hamilton County, OH. This ESF describes the operational components as well as roles and responsibilities of the agencies necessary to fulfill the duties of ESF #10.

Scope

ESF #10 serves to provide assistance to local jurisdictions in Hamilton County by providing subject matter expertise and information regarding hazardous materials in Hamilton County, as well as supporting the response to and recovery from hazardous materials incidents.

Activities of ESF #10 include coordinating with facility sites and transportation operators, providing subject matter expertise in support of operations in the field, conducting real-time hazard analyses, calculation of initial isolation and protective action distances, plume modeling, coordinating air monitoring operations, and identifying other hazardous materials incident resources in support of the Logistics Coordination Section and Incident Command.

Situation

In addition to the Hamilton County Emergency Operations Plan (EOP) Basic Plan, there is a Hazard Specific Annex (HSA) for Hazardous Material Incidents (Annex P). The Hazardous Materials Incident HSA provides more specific response and recovery information as it relates to operations in the field. The HSA includes site-specific information and hazard analyses, and per Section 149.433 of the Ohio Revised Code is exempt from public records request.

This ESF annex is based on the following information:

- The 2019 Hamilton County Threat & Hazard Identification and Risk Assessment (THIRA) has identified Hazardous Material Incidents as one of the hazards that could affect Hamilton County.

- In addition to being a standalone hazard, a hazardous material incident could be a cascading hazard as a result of another hazard (e.g., Tornado).
- Businesses manufacturing, utilizing, or storing hazardous chemicals are subject to the requirements of the federal Emergency Planning and Community Right to Know Act (EPCRA) and similar laws in the State of Ohio. If chemical inventories exceed reporting thresholds established in these laws, the facilities are required to report the presence of these chemicals to the State of Ohio, Hamilton County LEPC, and the local jurisdiction fire department. Safety Data Sheets (SDS) for each chemical must be also provided to the LEPC and the local jurisdiction fire department. Annual chemical inventory reports, commonly known as Tier II Reports, contain facility identification information, contact information, and the quantities of hazardous chemicals on-site for the reporting year.
- For the calendar year 2022 chemical inventory reporting, there are **654 sites reporting hazardous chemicals** in Hamilton County. Of those, **331 have Extremely Hazardous Substances (EHS)** as defined by the U.S. EPA. Sites containing hazardous materials are required to report per Title III of the Superfund Amendments and Reauthorization Act (SARA). The list of facilities is maintained by the Hamilton County LEPC.
- There are ten (10) state routes, six (6) U.S. routes, and five (5) Interstate Highways in Hamilton County.
- There are seven (7) railroads that operate within Hamilton County. Of those seven, six transport hazardous materials:
 - Central Railroad Company of Indiana
 - Cincinnati Eastern Railroad
 - CSX Transportation
 - Indiana & Ohio Railway Company
 - Norfolk Southern Railway
 - Indiana Eastern Railroad
- There are five (5) pipeline operators in Hamilton County:
 - BP Pipelines North America
 - Duke Energy
 - Enterprise Products Operating, LLC
 - Mid-Valley Pipeline Company
 - Texas Gas Transmission, LLC
- The United States Department of Transportation (U.S. DOT), Pipeline and Hazardous Materials Safety Administration (PHMSA) maintains safety authority over liquid pipelines and all interstate pipelines in the State.
- There are two Type I Hazardous Material Response (HazMat) Teams within Hamilton County, as verified by the Ohio Hazardous Materials Technical Advisory Committee. These two teams are the Greater Cincinnati Hazardous Materials Unit (GCHMU) and the City of Cincinnati Fire Department (CFD). Additional details about team typing can be found in the Annex P: Hazard Specific Annex for Hazardous Materials Response.

Assumptions

Planning requires assumptions based on statistics, history, behavior patterns and likely future trends. The following assumptions were made as consideration for ESF #10:

- All responding agencies will be trained in accordance with OSHA 1910.120 Hazardous Waste Operations and Emergency Response Standard (HAZWOPER), which describes minimum levels of emergency responder skills, knowledge, and functional levels to meet health and safety requirements for response to a hazardous materials incident. Additionally, first responders will follow the guidance provide in NFPA 470, which defines competencies for personnel responding to hazardous materials emergencies. Training is available through a variety of sources and is managed by the individual teams, in coordination with the Hamilton County LEPC.
- First responders (e.g., HazMat Teams, EMS agencies, law enforcement agencies, as well as other local agencies with hazardous materials support responsibilities such as public works departments) maintain procedures, protocols and guidelines specifying the appropriate specialized personnel protective equipment requirements and response actions for incidents involving hazardous materials.
- Emergency response personnel maintain ongoing communication with the facilities subject to EPCRA in their communities manufacturing, utilizing, or storing hazardous materials. Emergency response personnel and the facilities will work to ensure coordination before, during, and after the incident.
- Facilities subject to EPCRA and State of Ohio Laws will submit Safety Data Sheets (SDS), annual chemical reporting, and emergency plans (when necessary) to the State of Ohio, Hamilton County LEPC, and local jurisdiction fire departments. The submissions will be made in a timely manner and in accordance with the specific requirements of these laws.
- When needed, evidence collection and the gathering of data will be handled by appropriate agencies, such as local law enforcement, local health departments, the Ohio National Guard 52nd Civil Support Team, and the FBI in a CBRNE incident.
- In major incidents, state and federal resources will be available to assist jurisdictions in augmenting local and regional capabilities, but their availability may not be immediate.
- Evacuation or sheltering-in-place may be required to protect portions of Hamilton County during a hazardous materials incident.
- Victims of a hazardous materials incident may require unique or special medical treatment.
- The release of hazardous materials may have short and/or long-term health, environmental and economic effects depending upon the type of product.
- Hazardous materials incidents may occur without warning, requiring immediate emergency response actions.
- Agricultural chemicals such as pesticides and fertilizers can pose a threat to the environment if used improperly or if there is a release.
- Hazardous materials and wastes in large quantities and varieties can be found in residences. Home businesses can use hazardous materials and generate hazardous waste that is unknown to regulatory agencies. Illegal activities using hazardous materials such as drug labs can be found in residences.

Concept of Operations

ESF #10 consists of four broad activities in relation to the Hamilton County EOP. These activities are:

ESF #10 Activities	
1.	Coordinating with Facility Sites and Transportation Operators
2.	Providing Subject Matter Expertise to Support Response Operations
3.	Conducting Hazard Analyses, Calculation of Initial Isolation and Protective Action Distances, and Plume Modeling
4.	Coordinating Air Monitoring Operations

Coordinating with Facility Sites and Transportation Operators

The Hamilton County LEPC maintains the chemical reporting documents (SDS & Tier II Reports) submitted by facility sites in Hamilton County. This information is available to all fire departments within Hamilton County and is maintained on multiple platforms including CAMEO/ALOHA/MARPLOT, PEAC-WEB, PEAC-WMD, and Google Earth. These platforms allow the data to be accessed by first responders operating in the field.

During an activation of the Hamilton County EOC, ESF #10 can utilize this information to identify and contact facility sites that are threatened by different hazards. ESF #10 can be tasked with notifying facility sites and relaying information about hazards that may affect their operations. The database maintained by the LEPC can also be utilized to gather information from facility sites regarding the disaster, including chemical-specific information during a spill or release. This information can be directly shared with Incident Command or HazMat teams in the field if contact with the facility is not already made.

ESF #10 can also be asked to coordinate with shippers who are transporting hazardous materials through Hamilton County. In the event of a hazardous materials incident involving a shipper, more information regarding the spill or release may be needed than is available on scene. Incident Command and HazMat teams in the field may request ESF #10 to coordinate with those responsible for the transportation and gather additional information.

If the incident requires the notification or coordination with sites outside of Hamilton County, ESF #10 will have the responsibility of ensuring that the information is shared with the appropriate partners.

Providing Subject Matter Expertise to Support Response Operations

Hazardous materials incidents can be a cascading hazard that results from many other hazards. As such, ESF #10 may need to serve in an advisory capacity, providing subject matter expertise to other aspects of the response.

When any hazard results in displaced individuals or households being potentially exposed to hazardous materials or other harmful substances, ESF #10 may need to work with ESF #6 – Mass Care and ESF #8 – Public Health & Medical Services to advise on proper procedures for decontaminating individuals. Individuals may need to be decontaminated before entering emergency shelters or other health facilities. Likewise, ESF #10 may be requested to advise ESF #11 – Animals & Agriculture on how best to decontaminate animals before they enter emergency animal shelters or other facilities.

ESF #10 may also provide subject matter expertise on the proper methods for removing, transporting, and disposing of debris that contains hazardous materials, or has been exposed to hazardous materials as a result of the incident. ESF #10 will work to ensure that any debris containing hazardous materials is transported in accordance with the Hamilton County Debris Management Plan.

Within the EOC, ESF #10 can support the Logistics Support Section multiple ways. ESF #10 can recommend resources that can support the HazMat teams in the field to the Logistics Support Section, including those resources that are outside Hamilton County. ESF #10 can reach out to other regional HazMat teams on behalf of the Logistics Support Section to support response operations. Lastly, ESF #10 can advise the Logistics Support Section in the EOC and any Logistics Sections in the field on the proper procedure for decontaminating response equipment in the field.

Conducting Hazard Analyses, Calculation of Initial Isolation and Protective Action Distances, and Plume Modeling

Due to its location at the EOC and given the information available, ESF #10 can best support response operations by providing more in-depth hazard analysis than is available in the field. ESF #10 can utilize CAMEO/ALOHA/MARPLOT, PEAC-WEB, PEAC-WMD, and information gathered from both field operations and partners within the EOC to generate more detailed hazard analyses. These analyses can include both initial protective actions near the site of the spill or release, as well as plume models.

Plume models can be generated by various resources available to ESF #10. If the hazardous material is airborne, ALOHA/MARPLOT, and PEAC-WMD can create an air plume model using real-time information that can outline not only what the predicted path of the plume is, but also which critical infrastructure and populations may be affected. ESF #10 can also contact FEMA's Interagency Modeling and Atmospheric Center (IMAAC). IMAAC provides free expert modeling of CBRNE and hazardous materials incidents.

Information can then be relayed to ESF #15 for Emergency Public Notification. Appropriate population protective messaging will be sent out based on the modeling results.

In addition, ESF #10, in coordination with the Ohio River Valley Water Sanitation Commission (ORSANCO), can produce water plume modeling for hazardous materials released in the Ohio River.

Coordinating Air Monitoring Operations

In conjunction with plume modeling, ESF #10 can also coordinate air monitoring of the potentially affected areas. Air monitoring is performed to aid in hazard assessment and to ensure a safe atmosphere for the public, responders and the environment.

Airborne contaminants can present a significant threat to the health and safety of both the public and first responders. Identification and quantification of these contaminants through air monitoring is an essential component of maintaining situational awareness and informing appropriate environmental response actions. Understanding airborne contaminants will allow first responders to select the appropriate personal protective equipment, delineate areas where protection is needed, and assess the potential health effects of exposure.

Organization and Assignment of Responsibilities

The Hamilton County LEPC has the primary responsibility for the hazardous materials functions in Hamilton County. The LEPC will serve as the Coordinating Agency for this ESF.

Coordinating Agency Responsibilities

Hamilton County LEPC will:

1. Coordinate the activities of Support Agencies within ESF #10 to fulfill operational objectives.
2. Direct the activities of the ESF #10 in conjunction with assistance from ESFs at the local, State, or Federal levels as applicable.
3. Collaborate with other Coordinating Agencies to ensure an effective response between ESFs.
4. Designate sufficient representatives (no less than three) to support/staff 24-hour operations at the Hamilton County EOC. The Hamilton County EMHSA will maintain listings of these personnel, 24-hour contact information, and directions for contacting them in the event of communication outages.
5. Develop and train all staff responsible for implementing ESF #10 on standard operating procedures.
6. Share ESF #10 activity information with appropriate EOC personnel.
7. Prioritize ESF #10 operational strategies in alignment with the EOC and on scene objectives.

8. Establish and maintain operational awareness of hazardous materials activities through direct communication links with hazmat units in the field.
9. Maintain chemical reporting documents for all facilities in Hamilton County that manufacture, utilize, or store hazardous chemicals.
10. Maintain CAMEO/ALOHA/MARPLOT, PEAC-WEB, PEAC-WMD, and Google Earth databases current for use of first responders.
11. Utilize information from the field to generate hazard analyses, calculate initial isolation and protective action distances, and generate plume models in support of first responders.
12. Coordinate with facility sites and transportation operators upon the request of Incident Command.
13. Conduct hazardous materials disaster impact and needs assessments.
14. Receive, manage, and track resource requests for ESF #10 in accordance with established resource management procedures.
15. Coordinate with ESF #15 – Emergency Public Information for the inclusion of appropriate information for public dissemination.
16. Assist in the development of the After-Action Report. This report is a detailed, written analysis of the strengths and weaknesses of county-level emergency response and short-term recovery activities based upon extensive research of the event and interviews with participating assessment, response, and short-term recovery personnel.

Supporting Agencies Responsibilities

Hamilton County Communications Center will:

1. Routinely document and share information with the Coordinating Agency when hazardous materials incidents occur within Hamilton County (excluding the City of Cincinnati).

Hamilton County Environmental Services will:

1. Routinely monitor air quality in Hamilton County.
2. Coordinate with partner agencies to facilitate air monitoring operations near the site of hazardous material releases or spills. The air monitoring may be performed by:
 - a. Hazardous materials teams
 - b. HCDOES personnel
 - c. Local health departments
 - d. Ohio EPA or U.S. EPA resources
 - e. Private contractors
3. Issue Air Quality advisories if there are potential issues in air quality that are considered Unhealthy for Sensitive Groups.
4. Advise on the removal of hazardous materials or potentially contaminated materials during debris removal operations.

Hamilton County Public Health will:

1. Conduct and coordinate public health assessments of conditions in the communities affected by hazardous materials incidents and, where possible, determine where health problems could occur.
2. Maintain on-going public health surveillance of affected communities in order to rapidly identify and address public health-related problems.
3. Provide and coordinate public health and medical advisories.
4. Provide subject matter expert expertise, if requested, related to ensuring the control, environmental monitoring and assessment, clean-up, and disposal of any hazardous waste emergency to protect the health and welfare of Hamilton County residents and the environment.
5. Coordinate situations if isolation and/or quarantine of individuals or households are necessary.
6. Coordinate with ESF #15 – Emergency Public Information to include information regarding the effects of hazardous material spills or releases on humans and animals.

City of Cincinnati Emergency Communications Center will:

1. Routinely document and share information with the Coordinating Agency when hazardous materials incidents occur within the City of Cincinnati.

City of Cincinnati Fire Department:

1. May provide personnel to support/staff 24-hour operations at the Hamilton County EOC. Maintain listings of these personnel, 24-hour contact information, and directions for contacting them in the event of communication outages.
2. May provide personnel from the City of Cincinnati ESF #10 to concurrently serve as the Hamilton County ESF #10 Coordinating Agency.
3. Will relay information from the HazMat Unit in the field to the Coordinating Agency regarding on scene information, response objectives, and current and potential resources.

Greater Cincinnati Hazardous Materials Unit will:

1. Relay information from the HazMat Unit in the field to the Coordinating Agency regarding on-scene information, response objectives, and current and potential resources.

Ohio Environmental Protection Agency will:

1. Coordinate with local first responders to provide subject matter expertise in support of hazardous material incidents.
2. Provide an On-Scene Coordinator (OSC) to provide guidance to first responders, hazardous materials teams, and remediation contractors.
3. Maintain a spill, release, or environmental crime reporting hotline for the State of Ohio.

Ohio River Valley Water Sanitation Commission (ORSANCO) will:

1. Assist in creating water plume models for hazardous materials released into the Ohio River.
2. Notify partners along the Ohio River of hazardous materials releases and ongoing actions.

National Response Center will:

1. Serve as the designated federal point of contact for reporting all oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States. Notification of the NRC triggers a comprehensive federal, state, and local notification system.

U.S. Coast Guard Marine Safety Detachment – Cincinnati will:

1. Inspect commercial vehicles transporting hazardous materials on the Ohio River.
2. Coordinate and investigate hazardous material incidents on the Ohio River.

U.S. Environmental Protection Agency Emergency Response Branch will:

1. Coordinate with local first responders to provide subject matter expertise in support of hazardous material incidents and Incident Command System (ICS).
2. Provide a Federal On-Scene Coordinator (FOSC) for hazardous material and oil response incidents under the authority of the National Contingency Plan (NCP). The pre-designated US EPA Region 5 FOSC for Hamilton County is Steve Renninger (513-260-7849).
3. Provide removal action assistance at hazardous material incidents and sites under Superfund authority. Examples include: chemical spills, abandoned drum sites, plating facilities, large mercury spills, and vapor intrusion.
4. Provide chemical air monitoring assistance to the local Incident Commander to assist in the decision of Shelter in Place or evacuation.
5. Provide radiation monitoring assistance to the local Incident Commander.
6. Provide air modeling assistance.
7. Provide air monitoring and sampling assistance to confirm cleanup criteria.

References

Hamilton County Emergency Management and Homeland Security Agency. (2016). *Hamilton County Damage Assessment Plan*.

Hamilton County Emergency Management and Homeland Security Agency. (2023). *Hamilton County Debris Management Plan*.