

KNOX COUNTY

LOCAL EMERGENCY PLANNING COMMITTEE

And

EMERGENCY MANAGEMENT AGENCY

ANNEX O - HAZARDOUS MATERIALS

TO THE

KNOX COUNTY EMERGENCY OPERATIONS PLAN

2021

The following pages contain the required information by the State of Ohio Emergency Management Agency in compliance with the Ohio Revised Code C Sections 3750.04 (A).

This information was compiled by using the U.S. EPA's Technical Guidance for Hazards Analysis (1987), NRT's Hazardous Materials Emergency Planning Guide - NRT- 1 (1987), Ohio's P&E Guide 1995, and the U.S. EPA / NOAA Cameo Program.

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I. Introduction

A. Purpose of the Plan

1. Knox County Local Emergency Planning Committee

The Local Emergency Planning Committee (LEPC) exercises the powers and performs the duties delegated by Title III (Emergency Planning and Community Right-to-Know Act) of the Superfund Amendments and Reauthorization Act (SARA) and Chapter 3750 of the Ohio Revised Code.

These powers and duties enable LEPC to perform the following:

- Develop a comprehensive emergency response plan for the county
- Receive and maintain a database of reports and chemical inventory information per SARA Title III
- Receive and process requests for chemical inventory and emergency response information from the public
- Establish procedures for providing public information
- Notify the public of committee activities and public meetings
- Handle and respond to public comments on the emergency plan

With the information and reports received LEPC will:

- Perform hazard analyses
- Build and maintain a database of hazardous material locations and quantities in the county
- Establish and maintain a computer system for hazardous material emergency responders

These activities will be coordinated by the LEPC and the Emergency Management Agency (EMA) Director.

The yearly mandated March 1st facility reports are filed in the EMA office. From these files the LEPC produces various summaries, which are used in preplanning, prevention, emergency response, and post-incident activities. Risk assessments are performed on facilities reporting Extremely Hazardous Substances.

2. Plan Design and Function

The Hazardous Material Annex is an extension of the Knox County Emergency Operations plan dealing specifically with response to hazardous material incidents. This document is a coordinated plan for an organized and systematic approach to the best possible response to the problems created in the event of a hazardous chemical release or incident. The plan identifies the responsibilities, functions, operational procedures, and working relationships between and within governmental entities and their various departments, private support groups, local industries, and individual citizens. The two primary goals of the plan are:

- Protect lives and property by developing emergency operational programs and procedures that; mitigate the effects, prepare, respond and recover from planned or unplanned chemical releases whether civil, natural, or technological in origin.

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- Restore the impacted area to pre-incident status with a minimum of social and economic disruption.

Hazardous materials emergency response and preparedness planning includes identification of all possible chemical hazards at the various facilities and identifying highway, rail, and pipeline routes used to transport hazardous materials. Responsibilities and procedures for agencies and organizations were developed and written into the plan, taking into consideration the organizations' capabilities and limitations in personnel, equipment and training.

3. Activation of Plan

The Knox County Emergency Operations Plan including, Hazardous Material Annex O will be activated by the LEPC Community Emergency Coordinator (EMA Director), the incident commander, the County Sheriff, or a Knox County Commissioner in the event of a chemical incident within Knox County.

B. Plan Basis

1. Hazard Analysis Methods

The LEPC personnel conduct a hazard analysis for all SARA Title III chemical facilities in Knox County. The LEPC uses the National Response Team's Hazardous Materials Emergency Planning Guide, NRT - 1 guidance document and the supplement, Technical Guidance for Hazards Analysis, in conjunction with the CAMEO program and its maps. The three step process includes: hazard identification, vulnerability analysis, and risk analysis, with general descriptions and specific procedures for each step.

CAMEO's MARPLOT maps and Google Earth are used to study the geographic formations and the populations surrounding each EHS facility and some facilities with hazardous chemicals. These maps include: residence populations, schools, day care centers, nursing homes, shelters, and surrounding facilities.

The SARA Title III chemical inventory report and an additional questionnaire from each facility are used to analyze the quantities and storage conditions for each chemical, looking at maximum amounts of chemical for single and multiple containers at each facility.

The information from each facility includes:

- Types and amounts of chemicals and where they are stored.
- Facility map(s) showing chemical locations, roads, exits, etc.
- The name of the emergency coordinator and an alternate, with emergency phone numbers.
- The status of emergency planning and exercising.
- The types of development surrounding the facility, and any surrounding critical facilities.
- The location of responding fire departments and approximate response time.
- Coordination efforts established with nearby hospitals, if any.
- Chemical emergency monitoring equipment available at the facility.

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- Personal protective equipment available at the facility.
- Emergency spill equipment available at the facility (sand, dikes, backhoes, etc.)
- Physical and other means/measures used to separate chemicals.
- Secondary spill containment systems available.
- Procedures for handling and treating chemical waste.
- Any employee evacuation plans.
- Any evacuation plans or other coordinated efforts for area residents, such as CAER.
- Any warning equipment such as sirens, alarms, or PA's at the facility.
- Any personnel trained as first responders.
- Likely transportation routes to the facility.

Output reports available from collected data.

Summary reports are used in determining LEPC training/awareness programs. The LEPC reviews each EHS facility for risk and vulnerability based on information provided by the facility. This includes an evaluation of potential effects on adjacent facilities and the possible increased risk. CAMEO Chemicals, MARPLOT, ALOHA and the 2020 Emergency Response Guide Book are used to aid in these assessments. Knowing the particular chemical and the amount of release (or assuming the maximum release), and the existing weather conditions, the model can predict the distance and speed the plume can travel and the necessary evacuation area. Information also includes credible worst case scenarios of a release based on the facility, the chemical, and the amount of the release.

2. Hazard Analysis Assumptions

Geographic Assumptions

Knox County is located in the north central part of the state of Ohio surrounded by Ashland, Coshocton, Delaware, Holmes, Licking, Morrow, and Richland Counties. The County has a total area of 530 square miles. Most of the county lies in the Glaciated Allegheny Plateau with rolling hills and valleys. Although the relief is not sharp, some elevations in the county reach over 1400 feet above sea level.

Weather Factor Assumptions

An average of almost 40 inches of precipitation falls on Knox County annually. Although variations in precipitation may occur from place to place within the county, the long-term averages across the county are relatively close. The average precipitation is 3.3 inches per month, with January and February (2.2 inches) typically being the driest months, and July (4.3 inches) the wettest. There can be, however, extreme variations in some years and in certain months within a year. The average temperature in Knox County is approximately 50 degrees. The months of January, February, March November and December are typically below average, with an average snowfall of 24.6 inches. The average temperature in July is 83° F and the average temperature in January is 23° F.

Material Quantity and Storage Assumptions

The LEPC risk and vulnerability analysis uses the worst case scenario for each EHS. Information from the facility inventory reports includes the types and amounts of chemicals and where they are stored, including facility maps showing chemical locations, roads, and exits. The LEPC looks at the maximum amount for single and multiple containers at each facility and considers the likelihood of a release, then assesses the consequences of the simulated release and determines the overall risk of the EHS. The LEPC uses the federal definitions for the “likelihood of a release” and the “consequences of a release” found in the National Response Team’s Technical Guidance for Hazards Analysis.

Facility Involvement

Each facility completes a (SERC) chemical inventory report. This information is used annually to update the hazardous materials list.

C. Relationship to Other Plans

The Knox County Emergency Operations Plan is the underlying document for the protection of health, safety and property of the public in Knox County from all natural and man-made disasters. It is the principle guide for the Agencies of Knox County and other local government entities in mitigating emergencies and disasters. This plan is intended to facilitate multi-agency and multi-jurisdictional coordination, particularly between local, state, and federal agencies in emergency operations.

- The Hazardous Material Annex O to the Emergency Operations Plan provides procedures to protect the public from transportation, storage, and fixed site hazardous material incidents.
- Each fixed facility having extremely hazardous substances is required to develop an on-site emergency plan that specifies notification, response activities, and coordination procedures with outside agencies.
- Information on fixed-site planning is collected during the hazard analysis process performed by the LEPC. Summaries of each facility are stored with the EMA office.
- Knox County’s emergency response agencies (fire, law enforcement, etc.) Have entered into mutual aid agreements within the county and adjacent counties that increase response capabilities.
- Mutual aid for the support of response functions is addressed by agreements between the Director of Knox County EMA and EMA directors of adjacent counties.
- The Ohio EMA has developed the Hazardous Materials Emergency Management Plan which outlines the responsibilities of the appropriate state agencies in responding to hazardous material emergencies that exceed county capability.
- Copies of the plan are provided to all adjoining planning districts.

II. Situations and Assumptions

A. Situations

Knox County is at risk for an uncontrolled release of a hazardous material from a fixed site or during transport. Sources of hazardous material incidents are: transportation routes, fixed facilities, illegal drug labs, pipelines, illegal dumping, chemical misapplication and incidents caused by natural occurrences.

1. Fixed Facility Hazards

Knox County has a small number of fixed facilities that contain both EHS and non-EHS chemicals. A majority of these chemicals are in simple terms battery acid used to provide backup power to phone systems or power for forklifts. Annual reports filed in accordance with the Emergency Planning and Community Right-to-Know Act are maintained on file with the LEPC at the EMA office.

EHS Facilities

Knox County has several facilities reporting Extremely Hazardous Substances (EHS). Please refer to **Tab A** (Facility Data / Hazard Analysis Summaries) for a listing and information on the EHS facilities in the county.

Adjoining Facilities

The LEPC reviews EHS facilities for potential or added risk due to their proximity to another EHS facility. The information is added to the facility profile and made available to local fire departments.

Facility Area Description

Detailed descriptions of each facility are on file at the EMA office. The files contain maps that show the area surrounding the facility. Adjoining EHS facilities, schools, fire stations hospitals, and other reporting industries are indicated on the maps.

Non-EHS Facilities

Knox County has several non EHS facilities that report hazardous substances. Please refer to **Tab A** for a listing and information on non-EHS facilities in the county.

2. Transportation Hazards

Hazardous materials are transported into and through the county by highway, rail, and pipeline.

Highways

There are eight highways that transverse Knox County. Four of the highways pass through the city of Mount Vernon. Highway US 62 borders Knox County South and Southeast. State Route 95 passes through Knox County's North West jurisdiction.

- US Route 36
- US Route 62
- State Route 3

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- State Route 13
- State Route 95
- State Route 229
- State Route 586
- State Route 661

Airports

There is one public and two private airports in Knox County.

- The Knox County Airport is at 6481 Kinney Road, Mount Vernon in Miller Township.
- Wynkoop Airport is at 8850 Granville Road, Mount Vernon in Pleasant Township.
- Chapman Memorial Field is at 3275 Columbus Road, Centerburg in Hilliar Township.

There are three private airstrips (no other facilities) in Knox County

- 13600 Tiger Valley Road, Danville in Union Township.
- 27261 New Castle Road, Gambier in Harrison Township
- 18750 Turkey Ridge Road, Danville in Jefferson Township

Railroads

There is one Railroad providing freight service to Mount Vernon.

- Central Ohio Railroad

Pipelines

Public Utilities Commission of Ohio (614) 644-8983 is available for assistance related to pipeline incidents. The pipelines are owned by:

- Columbia Gas
- East Ohio
- Ohio Cumberland

Transportation Spill Risk

There several variables affecting transportation risk. The populations most at risk are those reside within one-half mile of the eight highways that transverse Knox County.

Transportation Spill History

Since January 2009, there have been five significant spills involving hazardous materials. One spill involved several pool chemicals, one propane, one gasoline, and the remaining two involved diesel fuel.

B. Assumptions

The following factors and situations could impact the response to, and effect of, an accidental spill or release.

1. Response time

Response time can possibly be affected by traffic congestion. Morning, lunch time and evening rush hours do not generally result in standstill traffic with the exception of the city of Mount Vernon. The State Route 36 and State Route 13 corridors in downtown Mount Vernon often experience traffic congestion during normal business hours. Additionally, traffic congestion affecting a response could occur as a result of highway maintenance, special events, and festivals such as the Knox County Fair.

2. Weather factors

Knox County is located in an area of changeable weather which could affect response. In the spring, flooding is an issue. In the summer there are heavy rains and high winds. Tornado activity is a possibility during spring, summer, and fall seasons. Severe winter weather could create problems in incident response. These weather factors could also be the cause of a spill.

3. Demographic features

Being a predominantly rural county, a spill would most likely not impact a significant number of people. Spills occurring within the boundaries of the city and villages would have an increased potential for impacting a significant population.

4. Response capability

Knox County fire departments do not have a hazardous material team. Departments have limited manpower, equipment, supplies and skills to respond to a release. A response may likely require the cooperation and coordination of multiple jurisdictions.

III. Concept of Operations

A. Mitigation Activities

Knox County EMA currently provides recommendations and suggestions to facilities requesting mitigation information.

B. Preparedness Activities

1. Mutual Aid Plan

Should a large spill occur it would require mutual aid from outside of the county to a department with hazmat capabilities. Mutual aid requests can be made through local mutual aid requests or through the Ohio Fire Chief's Emergency Response Plan. Private companies have been identified to assist with cleanup activities. Facilities, equipment, and personnel have been identified and are available to assist with a hazardous materials spill. Knox County currently has mutual aid agreements in place to support other districts during a release. County EMA is also available to provide support to other districts in support of a release.

2. Training Program

Knox County EMA coordinates several training opportunities annually on behalf of the LEPC that meet the requirements established under the Superfund Amendment and Re-Authorization Act (SARA) for all personnel that may respond to a hazardous material incident. Training is available to first response agencies, county agencies, EHS facilities, volunteer organizations, the media and many others that may perform tasks during the incident.

These trainings will provide the responding organization with the knowledge to answer essential information questions such as: What is a placard? What does it mean? Where on a truck is it located? What procedures need to be followed on scene? Where do we report on-scene? Who is in charge?

Fire agencies taking advantage of training opportunities related to a hazardous materials incident response will be eligible to receive funding from the LEPC for equipment needs. Equipment funded by the LEPC must be related to a hazardous materials incident response.

Training Needs/Standards

It is not the LEPC's intention to set specific training standards for each responder agency. That responsibility lies solely with the agency. The LEPC is however encouraging all fire agencies to attend HAZMATIQ training. In addition to setting training standards, each agency also has the responsibility for creating measurable training goals annually.

The training role of the LEPC is to identify and recommend available training that meets the needs of the agencies as well as Federal and SERC training standards. The LEPC has no means to monitor training progress. The following general training standards and goals will be coordinated with each individual agency.

All Emergency Management and First Response Personnel

All personnel should have completed training in Hazardous Materials to the Awareness Level within the first six months of employment and also complete introduction training in the National Incident Management System (NIMS) and the Incident Command System (ICS). In addition, departments in Knox County will continue to train and maintain their current level of expertise in hazardous materials response. The following are courses that may accomplish this goal:

Fire/EMS Service

- Hazardous Materials Awareness Level
- Hazardous Materials Operations Level
- Hazardous Materials Technician Level
- Hazardous Materials Incident Commander

Law Enforcement

- Hazardous Materials Awareness Level
- Hazardous Materials Incident Commander

LEPC Members

- IS-0005.A: An Introduction to Hazardous Materials
- IS-2200: Basic Emergency Operations Center Functions
- Exercise Design

Public Officials

- IS-0005.A: An Introduction to Hazardous Materials
- IS-2200: Basic Emergency Operations Center Functions
- Hazardous Materials Awareness Level
- National Incident Management System

SARA Reporting Facilities

The LEPC Education and Training Subcommittee will provide upon request or as deemed necessary by the committee, training to facilities on the Ohio Revised Code, section 3750 or any other of the above mentioned training classes.

Training Methods

Historically Knox County emergency response forces have provided their own training through the Ohio Fire Academy or other outreach sources. Each department monitors their own training program to make sure their personnel are trained to state standards.

Training Sources

The LEPC/EMA office assists in coordinating training through the following agencies:

- Ohio Fire Academy
- FEMA, Emergency Management Institute
- Ohio Emergency Management Agency
- Department of Justice
- Colleges and Universities

Training Evaluation

Training and proficiency is tested and evaluated through drills and exercises conducted by individual agencies, jurisdictions, and organizations as well as the annual hazardous materials exercise.

3. Public Education

The primary function of the LEPC Education and Training Subcommittee is to educate local industry, the planning district, and emergency responders on the Emergency Planning and Community Right-to-Know Act.

Public education activities are conducted through the LEPC, the American Red Cross, the Knox Public Health (KPH) and Knox County EMA. Information is made available to the general public for the purpose of educating the community on awareness to the dangers EHS and what to do during a release.

4. Resource Management

Existing County Resources

Resource management is the responsibility of each organization and agency. This includes identifying sources of equipment, materials and supplies along with points of contact to insure timely mutual aid and/or request assistance. Specific resources are identified within the hazardous analysis of each EHS facility.

- During a hazardous material incident, the fire service with jurisdiction will have on-scene responsibility to determine what protective measures are needed to protect first responders, the surrounding population, and property.
- If the material on the dispatched equipment is not sufficient the Incident Commander must determine what extra resources will be needed.
- At the incident site the Incident Commander may appoint an individual as the Resource Officer; this individual is responsible for identifying the equipment available at the incident site, additional equipment required and to communicate the need to other departments, the Emergency Operations Center (EOC), or other sources.
- Off-site, the EMA Director or 9-1-1 Dispatch Center will assist the on-site commander by attempting to contact agencies, departments, contractors, etc. to locate and procure the needed equipment.
- Knox County EMA and the 9-1-1 Dispatch Center maintain resource information designed to help obtain necessary resources during an emergency. Information includes listings of public and private resources available. The resources have been contacted in advance and have agreed to offer assistance if possible.
- Public safety personnel have access to the information and may directly request resources.
- Fixed site facilities may have supplies and expertise on hand to help contain, neutralize, or suppress a release.

Heads of Emergency Response Organizations

A listing of the heads of emergency response organizations, by title and office along with phone numbers can be found in the Resource Guide maintained by Knox County EMA.

Resources Outside the District

The primary hazardous material responder will need supplemental resources when a Level 2 or Level 3 incident occurs. Levels of response are adopted from the International Fire Service Training Association's, hazardous materials levels of response and are defined later in this annex. These resources may be additional pieces of fire apparatus, additional firefighters, hazardous materials response vehicles or some other resource. The assistance may be from a mutual aid department, a contractor, or some other outside organization.

Hazardous Materials

- When requesting additional resources and assistance, they will be requested in this order:
 - Local government or contiguous local jurisdictions (Mutual Aid)
 - County government resources
 - Local private industry and/or the “Spiller”
 - State government (Federal government through the State EOC)

Identifying Needed Resources

Resources needed to contain a spill will depend upon the product released, its state, the container’s condition and the amount of product involved. Facility inventories and site descriptions from hazard analysis results are kept in the Knox County EMA office on behalf of the Knox County LEPC and will be available to responders on-site. Local fire departments participate in facility inspections within their jurisdiction and also have the hazard analysis results in their files. Proper equipment requirements for the incident will be determined by the fire service standard operating procedures.

Acquiring and Maintaining Resources

Local fire departments within the county maintain limited hazmat material resources on their vehicles. All county agencies and departments need to discuss and identify existing and needed resources on a regular basis and compose lists of these items which will be available in the event of an emergency. This will provide guidance in making additional purchases of equipment.

C. Response Procedures

1. Initial Notification

A hazardous material accident or incident will probably be observed and reported by a citizen, a facility worker, a first responder, or some other individual. The initial handling of the report is critical to a rapid and successful response and the protection of citizens.

Initial report

As required by ORC 3750.06, if any release of an extremely hazardous substance or hazardous substance occurs, the owner or operator of the facility or vessel from which the release occurred shall immediately notify verbally, by telephone, radio, or in person, the community emergency coordinator of each emergency planning district that contains an area likely to be affected by the release, the fire department having jurisdiction where the release occurred, and the director of environmental protection or his designated representative. The verbal notification shall be given within **thirty minutes** after a person at the facility or the operator of the vehicle has knowledge of the release, unless notification within that time is impracticable under the circumstances.

To the extent known at the time notice is given and that response to the release will not be delayed, the notice shall include all of the following information:

Hazardous Materials

1. The location of the release
2. The chemical name or identity of any substance involved in the release and whether the substance is an extremely hazardous substance
3. An estimate of the quantity of any substance released into the environment
4. The time and duration of the release
5. The environmental medium or media into which the substance was released
6. Any known or anticipated acute or chronic health risks associated with the release and, if known to the informant, advice regarding medical attention necessary for individuals exposed to the substance released
7. Proper precautions to take as a result of the release, including evacuation and other proposed response actions, unless that information is readily available to the community emergency coordinator pursuant to the plan of the district prepared under section 3750.04 of the Revised Code
8. The name and telephone number of the person or persons to be contacted for further information
9. Such other information as may be required by rules adopted under division (B)(1)(f) of section 3750.02 of the Revised Code

The verbal information will be recorded on the Incident Information Summary Form located in **Tab B**.

In addition to notification required by ORC 3750.06, the KPH will also be notified by the local fire department having jurisdiction or by an EMA representative.

Follow up report

As soon as practical, but not later than thirty days after the release, the owner or operator of a facility from which the release occurred shall submit to the Knox County LEPC, and Ohio EPA, a written follow-up report of the release updating the information provided in the initial verbal notice.

- This information must include the following:
 - Actions taken to respond to and contain the release.
 - Any known or anticipated acute or chronic health risks associated with the release.
 - Where appropriate, advice regarding medical attention necessary for individuals exposed to the substance released.
 - A summary of all actions taken by the owner or operator to prevent a recurrence of the release.

Receipt of the Report

The initial reporting call will most likely be taken by the 9-1-1 Dispatch Center. Upon receiving the call, 9-1-1 dispatchers will dispatch the fire service with jurisdiction and the local law enforcement agency.

Recording the Initial Call

- The LEPC developed an Incident Information Summary Form **Tab B**, to be used by the 9-1-1 dispatchers to provide information to the fire service during an incident. The form was developed to capture the pertinent information required under SARA, Title III, Section 304, b, 2; and ORC 3750.06, Section C. The form is also used by the LEPC to record information from incident report calls.

Documentation

- When notification is given to the Community Emergency Coordinator or his/her designee, the Incident Information Summary Report Form **Tab B** will be completed and later filed with the follow-up report at the Knox County EMA. Cumulative records and summary reports are prepared by the EMA.

Notification of Response and Support Agencies

The 9-1-1 dispatcher will assign the required response according to the information obtained from the caller. In most cases the response to a fixed site has been predetermined. In a transportation incident the dispatcher may have to rely strictly on the notification information. The Incident Commander determines the level of response, and the appropriate support agencies are notified by the dispatcher or his/her designee. Each support agency is responsible for providing internal notification to alert the appropriate personnel. Personnel should be assigned to the scene, local headquarters, an EOC, if appropriate.

Role of the Community Emergency Coordinator

The Knox County EMA Director serves as the Community Emergency Coordinator for hazardous materials. The role of the Community Emergency Coordinator is; to notify the proper authorities at the county and state levels, support the Incident Commander, and establish the operation of the EOC if necessary.

Notification of Adjoining Jurisdictions

Adjoining jurisdictions, which could potentially be affected, will be notified by telephone by the 9-1-1 Dispatch Center or EMA Director. Changes in incident status will also be communicated to the effected jurisdiction.

Emergency Condition Levels

The Incident Commander will assign an appropriate Emergency Hazardous Materials Incident Levels. Each level I, II, and III will provide a list of support agencies to be notified in case of a hazardous material incident. Hazardous Material Incident Levels are located in **Tab K**.

2. Incident Assessment

Fire Service Capabilities

Annex F of the Knox County Emergency Operations Plan provides and organized presentation of Knox County's firefighting and rescue capabilities in the event of an emergency.

- Knox County fire departments have awareness training and equipment to identify and provide basic containment.
- Knox County fire departments receive training in hazardous material response in accordance with the Superfund Amendments and Reauthorization Act.
- Each jurisdiction is responsible for the training of firefighting personnel and for ensuring proper compliance with training requirements.
- Each Knox County fire department has developed mutual aid agreements with those participating fire departments in adjacent county's.

Law Enforcement Capabilities

Annex E of the Knox County Emergency Operations Plan is a detailed description of Law Enforcement operations during an emergency. As stated in Annex E, if local and county capabilities are overtaxed support can be obtained from adjacent county Sheriff's, the Ohio State Highway Patrol, and additional state resources.

- Law enforcement is a first responder at a hazardous material incident and as such will be trained in the proper incident procedures.
- This includes, but is not limited to, maintaining positions that do not endanger the safety and wellbeing of the officer. Each agency is responsible for the training of personnel and for ensuring proper compliance with training requirements.
- Law enforcement groups involved will have to expand their operation to provide the increased manpower coordination necessary to perform their assignments.
- Law Enforcement's role in a hazardous materials response will include: traffic control, evacuation notification, assembly point liaison, and security. These tasks reflect the daily activities or direct extensions of daily activities.

EMS Capabilities

The role of an EMS response to a hazardous material release is the treatment, and care of casualties that may have resulted from exposure to a hazardous material. EMS response requires extreme caution to insure the safety of the EMS team. Surrounding county medical units will be used as back-up to Knox County units when needed per mutual aid agreements.

Procedures to Monitor Effects/Movement of a Release

During an incident, monitoring teams, health officials, and safety personnel will determine safe working levels for emergency response workers and safe habitation levels for the surrounding populations and environment.

On -site Monitoring Teams

During an incident there could be up to three groups monitoring the area:

- The fire service hazardous material responders will carry monitoring equipment.
- KPH will monitor and report on the chemical's effects on humans, including food and water supplies through cross-checking the amount and rate of release with the computer modeling of the chemicals known effects.
- The Ohio Environmental Protection Agency On-Scene Coordinator will work with the local responders to determine the effect upon the human and animal population plus the environment as a whole.

Post-Incident Monitoring

KPH will conduct one or more studies of the surrounding area if the incident warrants further investigation.

Biological Levels of Substances

State labs and toxicologists can help to determine which substances would be useful to measure in the study. They can also help to determine what methods of measurements are suitable. The Centers for Disease Control can provide assistance in making these decisions if expertise is not available within the state.

Investigation of Health Effects

The suitability of research methods depends upon the health effect(s) to be investigated. Questionnaires may provide more data than medical records, because some symptoms may be confused with those of the common cold or flu. If procedures such as x-rays or blood tests are required, the study will have to involve physical examinations.

Initial size-up of incident scene

9-1-1 Dispatch Center

Dispatchers will attempt to obtain any and all information from the person reporting a hazardous materials incident. Information obtained should include:

- Material name and/or type
- Amount and size of container(s)
- Nature of problem (leak, spill, fire, etc.)
- Dangerous properties of material

Dispatchers have a specific run-card identified to ensure all responsible first responder professionals are notified.

First Arriving Unit

The first arriving first responder shall establish a command post and give a size-up. First arriving companies will exert extreme caution so as not to commit themselves to a dangerous position or situation.

Hazardous Materials

When approaching, slow down or stop to assess any visible activity. Evaluate the effect or possible effects of wind, topography and location of the situation. All incoming companies shall stage in a safe location designated by the Incident Commander, taking into account wind, spill flow, explosion potential and any other pertinent factors.

Size-up

The objective of the size-up is to identify the nature and severity of the immediate problem and gather sufficient information to form a plan of attack. **A hazardous materials incident requires more cautious and deliberate size-up than most fire situations.**

- Avoid premature commitment of companies and personnel to potentially hazardous locations. Proceed with caution in evaluating risks before formulating a plan and keep uncommitted companies at a safe distance.
- Identify a hazardous area based on potential danger, taking into account materials involved, time of day, wind and weather conditions, location of the incident and degree of risk to protected personnel. Take prompt action to evacuate and/or rescue persons in immediate danger if possible, for the safety of all personnel.
- The major problem in most cases is the identification of materials involved in a situation, and the hazards presented. Look for labels, markers, and shipping papers. Ask personnel at the scene (plant management, responsible party, truck drivers) for any information they may have.
- Utilize reference materials and have the 9-1-1 Dispatching Center contact other sources for assistance (Emergency Response Guide Book, CHEMTREC, manufactures of material, other agencies). Survey equipment stored on fire vehicles will be used as needed to supplement and confirm chemical information.

Action Plan

An action plan to deal with the situation will be developed by the Incident Command Staff taking into account the initial size-up and available information. The plan must include a method to either:

- Get the hazardous material back into a safe container
- Neutralize it or Dispose of it
- Allow it to dissipate safely

The action plan must identify the method of hazard control and identify the resources available and/or required to accomplish this goal. It may be necessary to select one of several different options or the best immediate action may be no action at all until proper resources are available. All action plans must provide for:

- Safety of first responders
- Safety of citizens
- Decision making process for evacuation
- Control of situation

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- Stabilization of hazardous material
- Disposal or removal of hazardous material

Response teams will only perform the duties for which they have been trained.

Communications between the hazardous material team and the command post will take place on a dedicated frequency.

The action plan must contain an accurate assessment of the weather. Weather information can be procured from:

- National Weather Service
- Phone contact through the 9-1-1 Dispatch Center.

Use of Private Agencies/Contractors

The fire service may not be prepared to contain or clean-up a large release. Private contractors may be needed to assist or conduct the clean-up activity. Issues for consideration when using private contractors are:

- Level of personal protection provided by the company
- Company's access to gas, air, and water monitoring equipment
- Mobilization time
- Types and amounts of containers company has on hand
- Types and amount of equipment company can provide
- Ability to communicate with emergency and traffic control personnel
- Training in spill response
- Ability to handle waste
- Access to disposal sites
- Clean-up materials available
- Ability to maintain equipment and personnel for long term clean-up

Assessment Procedures of the KPH

KPH works with EMS on health effects of the chemical involved, completes epidemiological studies, and works on environmental health issues. KPH will become involved in hazardous material incidents in the event of:

- Explosions, fires, spills, and other unusual or catastrophic incidents at or around facilities involved in the manufacture, formulation, storage, or use of chemical or radioactive materials.
- Transportation accidents including rail, motor freight, and aerial accidents involving chemical or radioactive materials.
- Disposal site incidents--leachate discharges and atmospheric emissions from chemical dumps.

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- Chemical contamination resulting from accidental or intentional discharges or applications of chemicals that contaminate food, soil, water, or air posing a threat to the public health.

Types of Health Response

- Biological Levels:
 - Relative quantities of the various hazardous substances present at the site.
 - Concentration of this substance(s) along likely exposure pathways.
 - Persistency of the substances or their metabolites in the body.
 - Range of expected levels of the substances or their metabolites in the general population.
 - Determining the health effects given:
 - likely routes of exposure and the dose duration of exposure
 - Latency of health effects
- Methods of investigating health effects depends on the health effects to be investigated. Methods of investigation include:
 - questionnaires
 - physical examination
 - review of medical records
 - review of death records

3. Direction and Control

Direction and Control of a chemical incident is a coordinated effort provided at the scene of the incident by the incident command staff. In larger incidents the County Emergency Operations Center (EOC) or jurisdiction EOC may be activated to assist the Incident Commander/Unified Command working under NIMS.

a. The Incident Command System

The highest ranking member of the first unit arriving on the scene of an emergency incident shall initiate the basic incident command function, establish a Command Post, and assume all related command responsibilities. This shall be performed regardless of the jurisdictional boundaries. The initial Incident Commander shall retain these responsibilities until one of the following occurs:

- Command is officially transferred
- The incident is terminated

Command Responsibilities

The person assuming command is responsible for the following:

- Assuming an effective command location
- Calling on the scene and transmitting the initial radio report and size-up
- Assessing the incident priorities
- Determining the incident's strategic goals and tactical objectives

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- Developing and implementing the incident action plan
- Developing an incident command structure appropriate for the incident
- Assessing resource needs and orders, deploying needed resources
- Coordinating overall emergency activities
- Serving as ultimate incident safety officer; responsible for preventing fire fighter injuries and/or deaths
- Coordinating activities of outside agencies
- Authorizing information release to the media through the Public Information Officer (PIO)
- Returning companies to service.

The Incident Commander will be identified by a vest labeled **INCIDENT COMMANDER**.

Command Staff Positions

- **Safety Officer**
The Safety Officer will monitor and assess the safety hazards, unsafe situations, and develop measures for ensuring personnel safety. This position has veto power over the Incident Commander for safety issues. The Safety Officer will be identified by a green vest labeled **SAFETY OFFICER**.
- **Liaison Officer**
The Liaison Officer will coordinate the management of assisting or coordinating agencies. Liaison personnel of assisting agencies will report to the Liaison Officer. The Liaison Officer will be identified by a white vest labeled **LIAISON OFFICER**.
- **Information Officer**
The Information Officer is responsible for interface with the media and other appropriate agencies. The Information Officer acts as a central clearing point for the dissemination of information. This position will be identified by a white vest labeled **INFORMATION OFFICER**.
- **Staging Area Manager**
For large complex incidents requiring an on-scene reserve of fire companies, as well as other agencies, the Incident Commander may designate a formal staging area and appoint a Staging Area Manager. The Staging Area Manager will be responsible for the safe and effective movement of apparatus and will assign companies to report to specific divisions or groups.

General Staff Functions

- **Operations**
The Operations Section is responsible for management of all tactical operations at the incident. The Operations Section Chief will be identified by a vest labeled **OPERATIONS CHIEF**.

Establishing an Incident Command Post

The Incident Command Post is established by the jurisdictional fire department, usually at one of the vehicles. The Incident Command Post is supported by primary and backup communications systems which coordinate on-scene activities and with supporting agencies including the County EMA, and when activated the EOC.

Identifying the Incident Command Post

A vehicle from the responding fire department will initially be the designated Command Post. Additional identification materials will be used that specifically identify the incident as a 'hazardous materials incident'. These include the following:

- Flashing green light mounted on vehicle
- Jackets / Vests for Command Officers

Communication Networks

The communication networks are discussed in Annex B of the Knox County Emergency Operations Plan.

Overall Responsibility to Maintain Control

In accordance with ORC 3737.80, the chief of the fire department in whose jurisdiction the emergency situation is occurring or designee is responsible for the primary coordination of the on-scene activities of all agencies.

Incident Command/EOC Coordination

Coordination between the Incident Command and the EOC, when activated, is through the 9-1-1 Dispatch Center. If an EOC is not activated, Knox County EMA will coordinate directly with the on-scene command.

Use of Response Action Checklists and Other Forms/logs

Forms and records and discussion of their use can be found in the county Emergency Operation Plan. Checklists, forms, and logs are located in **Tab E**.

On Scene Direction

The Incident Commander will coordinate all public and private agencies on-site. The purpose of the Incident Command Post is to provide, on-site unified command of all participating agencies to ensure coordinated operations, simplification of communications, performance of logistical tasks, and overall management of incident activities. Fire, law enforcement, EMS, and HAZMAT teams will be managed by the Operations Section Chief. Support services will be managed by the Logistics Section Chief. When an incident becomes protracted and involves numerous agencies, the county EOC will be activated to coordinate resources, outside agencies, and communications.

Resource Acquisition

Proper equipment requirements for the incident will be determined following the fire service standard operation procedure. The Logistics Section Chief manages service and support resources required for the incident. This individual should establish functional units when

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needed to maintain an acceptable workload and span on control. Branches may be required within Logistics to maintain span of control when several functional units are established. For large complex incidents, the Staging Officer will assign companies to report to specific divisions or groups.

The Logistics Section Chief will have access to the Resource Guide maintained by the Knox County EMA. Additional resources can be identified and procured through the Knox County EMA.

Capability for 24-Hour Protracted Operations

- **Key Officials**

Each jurisdiction has requirements that mandate notification of key officials, or their alternates, during a major incident. Jurisdictional lines of succession are maintained locally and are available at the EMA office.

- **Emergency Responders**

Staffing is the responsibility of each agency. Each agency tasked for response will establish an internal protocol for alert notification. First responders (fire and police) have a 24-hour response capability. Ancillary groups (American Red Cross, EMA, and KPH) do not work 24 hours but have notification procedures.

- **Emergency Operations Center**

The EMA will notify the appropriate agencies when a significant incident occurs that requires activation of the EOC.

- **Obtaining Chemical Information**

To identify materials involved in an incident, responders will:

- Look for labels, markers, and shipping papers
- Consult with responsible party (plant management, transport company, etc.)
- Utilize reference materials and have fire dispatching office contact other sources for assistance, (CHEMTREC, manufactures)

Emergency Condition Levels

The LEPC and the Knox County Fire Chief's Association have adopted the International Fire Service Training Association's hazardous materials levels of response.

Level 1

The incident can be contained with the initial response.

Level 2

The incident requires a specialized response including hazardous material team, mutual aid, possible small evacuations and public disruptions.

Level 3

The incident puts extreme pressure upon the response agencies. Large scale evacuations, long term response, and major outside resources are needed or required by the Incident Commander.

Expected Facility Personnel Actions

Fixed Facilities

Each fixed facility should designate a facility emergency coordinator responsible for assisting in the preparation of an on-site contingency plan. This plan should include specific responsibilities, notification and emergency response procedures and available resources. Copies of the plan should be sent to the jurisdiction fire department and LEPC. **Tab I** of this annex provides a sample plan for facilities that do not have an existing plan. In the event a hazardous materials release occurs, the spiller should:

- Notify 9-1-1 Dispatch Center of a hazardous material incident
- Provide the dispatcher with all the appropriate information.
- Provide technical support, as requested, in the development of offsite risk assessments and contingency planning.
- Provide technical support to the Incident Commander at the Command Post during an incident.
- Provide personnel, technical expertise, equipment, and participate in chemical hazard exercises and other training activities.
- Notify appropriate officials/agencies of a chemical release incident as directed by federal and state regulations.

Pipeline Operators

- Responsible for a plan that outlines the general actions and establishes policies to be followed in the event of a chemical release incident
- Provide personnel, technical expertise, equipment, and participate in chemical hazard exercises and other training activities

Rail and Highway Carriers

- Develop a chemical incident response plan.
- Maintain a response capability in the event of a hazardous material involving rolling stock.
- Notify 9-1-1 Dispatch Center of a hazardous material incident and provide the dispatcher with all the appropriate information.
- Provide proper identification of all hazardous materials carried.
- Insure that shipping papers are carried on truck/train.
- Provide technical assistance, personnel and resources to the Incident Commander to mitigate incidents involving their stock or property.
- Provide personnel with, technical expertise, equipment support and participate in chemical hazard exercises and other training activities.

Support Agency Procedures

- Notification procedures for support groups will come from the fire service.
- The notification of support groups will be tied to the levels of response. Once the Incident Commander evaluates the situation a response level can be given and the appropriate support agencies notified.
- Each support group has the responsibility to provide area dispatchers with up-to-date names and means of contact for each agency including back-ups.
- Each support agency shall report to the Incident Command Post upon arrival at the scene for coordination of activities.

Support groups may include, but are not limited to:

The American Red Cross

The American Red Cross (ARC) will provide mass care shelter and feeding for ambulatory evacuees only. The ARC will assist with congregate care facility evacuation, coordinate human services support in shelters, respond to welfare inquires, feed and shelter emergency workers and coordinate return of sheltered evacuees. To aid in coordination of activities, liaison personnel will be assigned at the Command Post and at the EOC if opened.

KPH

KPH will coordinate with the Ohio EPA and Incident Commander, will determine return criteria and issue a statement through the Public Information Officer authorizing return of evacuees. The department will provide health effects assessment as required during the incident and provide epidemiological studies following the incident utilizing the Ohio Department of Health when necessary.

Knox County EMA

The Knox County EMA will provide resource data as requested or as available. The EMA will provide field support personnel at the Command Post and activate an Emergency Operations Center when necessary. The agency will assist the ARC with the coordination of sheltering evacuees and with congregate care facility evacuation. The EMA will provide information to the jurisdictional Chief Executive Officer. The agency will advise Ohio EMA of an incident when appropriate and request state and federal assistance if necessary.

Ohio Environmental Protection Agency

The Ohio EPA will be notified of all incidents. Ohio EPA On-Scene Coordinator will if requested, provide available information to the Incident Commander about the toxicity of the hazardous materials(s) and advice/recommendations regarding withdrawal and return requirements. Ohio EPA will also supervise clean-up.

State and Federal Support

Planning, training and on-site assistance are available through state and federal agencies. Some of these agencies are:

- State Emergency Response Commission - SERC
- Ohio Emergency Management Agency – Ohio EMA
- Federal Emergency Management Agency - FEMA
- Ohio Department of Natural Resources - ODNR
- Ohio Environmental Protection Agency - OEPA
- National Response Center – NRC

b. Emergency Operations Center

When a hazardous material incident becomes protracted and involves numerous agencies, the county EOC will be activated to coordinate resources, outside agencies and communications. The EOC would function as it would for any other large scale incident, with the possible addition of the site facility representative, chemical company, or transportation company representative. The Knox County EOC is located at 11540 Upper Gilchrist Road, Mount Vernon, Ohio 43050

EOC Activation

The decision to activate an EOC will be made by the Emergency Management Director, the Knox County Sheriff, a Knox County Commissioner or a request from a jurisdiction official.

EOC Activities during an EHS Incident

During an EHS incident an EOC would operate the same way as for other types of incidents. General functions would be:

- Resource coordination
- Information gathering
- Data analysis
- Decision making
- Information dissemination

These functions can be performed at the designated EOC whether it be, the County EOC or the alternate County EOC location. Some may be performed at the Command Post.

EOC Management

Internal EOC operational procedures are the responsibility of the EMA Director or designee. EOC operations are organized into four groups consistent with the principles of ICS; Operations, Logistics, Planning, and Finance.

Twenty-Four Hour Capabilities

EOC staffing will be the responsibility of each agency. General duties of all EOC staff are listed in the Annex A of the Knox County EOP. Operational periods will be established and if needed twenty-four hour EOC staffing will be accomplished in two 12 hour shifts. Annex A of the county Emergency Operations Plan describes in detail the operations of the EOC.

EOC Diagrams

Diagrams of the EOC are located in Annex A of the Knox County EOP.

EOC Staff Requirements and Notification

Staff Requirements

The minimum staffing requirement for the EOC would be the EMA Director and one support person. A full complement of EOC staff positions and their duties can be found in Annex A of the County EOP. Knox County EMA will notify the appropriate agencies when a significant incident occurs that requires the EOC to open. If a situation occurs and the EOC must reactivate after an incident has been contained, the original procedures will be used to recall the participants.

Sample EOC Logs and Forms

Samples of EOC Logs and Forms are in Annex A of the Knox County EOP.

Facility Personnel EOC Support

Facility personnel or the transport company will provide technical support and be a contact point for information regarding chemicals, their volatility and interaction with the surrounding environment.

4. Communication among Responders

Primary and Back-up Communications Methods

Knox County's primary dispatch service is provided through the 9-1-1 Dispatch Center for fire, EMS, and law enforcement. In the event the 9-1-1 Dispatch Center is unable to function, Knox County EMA has a mobile command capable of toning and dispatching from a remote location. All county EMS, fire and law enforcement agencies radios are programmed with county MARCS TalkGroups including MARCS' interoperability TalkGroups. All responding agencies also have cellular telephone capabilities.

Additional Systems

A detailed description of additional communication systems (amateur radio, etc.) including frequencies used, can be found in Annex B of the Knox County EOP.

Twenty-Four Hour Capabilities

The 9-1-1 Dispatch Center provides twenty-four-hour dispatch service. If additional communications systems are needed, operational periods will be established to insure twenty-four hour staffing to operate and maintain those systems.

5. Containment and Scene Stabilization

Abilities of Knox County Fire Departments to Contain and Stabilize a Release

The abilities of Knox County fire departments to contain and stabilize a release will be based on each department's level of training and certification.

Law Enforcement Scene Stabilization Procedures

The ranking law enforcement person at the unified command post will determine the traffic control points and detours. The Incident Commander will be consulted to assure the traffic control locations and patterns will be outside the potential danger zone. Officers will be assigned to designated intersections with relief shift rotations. Traffic barriers may be used where appropriate. Escort services for containment and clean-up purposes will be available through local, county, and state law enforcement agencies. Law Enforcement evacuation procedures can be found Annex E of the Knox County EOP

Arrangement and Integration of other First Response Efforts

Hazardous materials teams would be requested through mutual aid agreements by the Incident Commander. In addition, there are several private contractors that can serve Knox County. A list of these contractors including their contact information is available on the Knox County EMA Resource Guide.

Containment and Stabilization Procedures

After evaluating the hazard, the Incident Commander will determine the most appropriate method for containment. Knox County fire departments will implement containment and stabilization procedures based on their level of training and certification. Each fire department is responsible for the training of firefighting personnel and for ensuring proper compliance with their guidelines and procedures.

Information on containment of a spill is in the US DOT Emergency Response Guidebook. The Guidebook lists the potential hazards and the emergency action to take for DOT regulated materials. Also included is information on placard recognition and isolation/evacuation distances.

Three Basic Containment Procedures:

- **Diking**
Where a leak is emanating from a vehicle - dikes should be placed around both sides of the vehicle rather than just in the area of the leak. The location of the dikes should be determined after evaluating the hazards to workers. Precautions must be taken to keep contaminants from entering the water system (e.g. covering manholes and sewers).
- **Discharge Suppression**
Options include creating a water fog - or covering the discharge with foam to prevent formation of a toxic cloud. Steps should be taken to plug the leak.
- **Allow Product to Continue to Burn**
If the hazardous material is already on fire and consists of hydrocarbons or is located in a pipe or in a cylinder under pressure, the best action may be to let the fire burn while monitoring the fire to prevent spreading.

6. Response Personnel Safety

Arrangement and Integration of other First Response Efforts

Hazardous materials teams would be requested through mutual aid agreements by the incident commander. In addition, there are several private contractors that can serve Knox County. A list of these contractors, their equipment, personnel capabilities and contact information is available on the Knox County EMA Resource Guide.

Safety Officer

The Incident Commander shall appoint a Safety Officer upon arrival at the scene. The Safety Officer will monitor and assess hazards and unsafe situations and develop measures for ensuring personnel safety accordingly. This position has veto power over the Incident Commander for safety concerns.

Hazard Zones

The following perimeters (Zones) will be established by the Incident Commander to control scene access at working hazardous materials emergencies. The Safety Officer and the hazardous materials team shall assist the Incident Commander in determining the zone boundaries. The shape and dimensions of the hazard zones shall depend upon such factors as the magnitude of the problem, wind direction and velocity, surrounding topography and/or adjacent structures, etc.

- Hot Zone (High Hazard) is the immediate danger area surrounding the problem site. The Hot Zone is only to be entered by trained hazardous materials personnel or individuals possessing particular knowledge of the problem/situation, under monitored conditions. During actual operations, a backup team (minimum of two personnel) wearing appropriate protection will be stationed at the edge of the Hot Zone.
- Warm Zone (Potential Hazard) is the area surrounding the Hot Zone that presents a minimum hazard to fire department personnel. Restricted to those assigned by the Incident Commander. The warm zone contains the decontamination corridor.
- Cold Zone (No Hazard) is the area surrounding the Warm Zone which presents no hazard to emergency services personnel and equipment. The Cold Zone is reserved for emergency services functions; command post, triage, agency liaison and incident PIO.

Response Limitations

The Safety Officer will insure that response personnel will only operate in the above listed zones based on their level of training and certification as well as the type of protective equipment available.

Personal Protective Equipment

The Knox County Fire Chiefs' Association's has adopted the EPA designation for protective clothing. When response activities are conducted where atmospheric contamination is known or suspected to exist, personal protective equipment (PPE) must be worn. This equipment is

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designed to prevent/reduce skin and eye contact as well as inhalation or ingestion of the chemical substance. PPE to protect the body against contact with known or anticipated chemical hazards has been divided into four categories. Full protective clothing (turn-out gear) and SCBA should generally be considered the minimum for Hot Zone operations.

Level "A" Protection

Level "A" protection should be worn when the highest level of respiratory, skin, eye, and mucous membrane protection is needed. Level "A" protection includes:

- Positive pressure, self-contained breathing apparatus
- Fully encapsulating chemical resistant suit
- Gloves, inner, chemical resistant
- Gloves, outer, chemical resistant
- Boot, chemical resistant, steel toe and shank; (depending on suit boot construction, worn over or under suit boot.)
- Two-way radio communications
- Optional
 - Underwear, cotton, long-john type.
 - Hard hat (under suit)
 - Coveralls (under suit)

Level "B" Protection

Level "B" protection should be selected when the highest level of respiratory protection is needed. This protection is the minimum level recommended on initial site entries until the hazards have been further identified and defined by monitoring sampling, and other reliable methods of analysis, and personnel equipment corresponding with those findings utilized. Level "B" protection includes:

- Positive pressure self-contained breathing apparatus
- Chemical resistant clothing (overalls and long sleeved jacket, coveralls, hooded two-piece chemical splash suit, disposable chemical resistant coveralls)
- Gloves, outer, chemical resistant
- Gloves, inner, chemical resistant
- Boots, outer, chemical resistant, steel toe and shank
- Two-way radio communications
- Optional:
 - Coveralls (under splash suit)
 - Boots, outer, chemical resistant
 - Hard hat

Level "C" Protection

Level "C" protection should be selected when the type of airborne substance is known, concentration measured, criteria for using air-purifying respirators met, and skin and eye exposure is unlikely. Periodic monitoring of the air must be performed. Level "C" protection includes:

- Full-face, air purifying perspiration

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- Chemical resistant clothing (one-piece coverall, hooded two-piece chemical splash suit, chemical resistant hood and apron)
- Disposable chemical resistant coveralls
- Gloves, outer chemical resistant
- Boots, steel toe and shank, chemical resistant
- Two-way radio communications
- Optional:
 - Gloves, inner, chemical resistant
 - Boots, steel toe and shank, chemical resistant
 - Cloth coveralls (inside chemical protective clothing)
 - Hard hat, escape mask

Level “D” Protection

Level “D” is primarily a work uniform. It should not be worn on any site where a respiratory or skin hazard exists.

Decontamination

Specific procedures to decontaminate personnel and equipment are outlined in the individual fire departments’ decontamination standard operating guidelines and procedures. The decontamination method used at an incident will depend on; material identification, assessment of its effects, and its actual removal and disposal.

Use of Mental Health Specialists

A Critical Incident Stress Management Team may be accessed by the calling Knox County 9-1-1 Dispatch Center or EMA.

7. Victim Treatment and Handling

In the event of a hazardous material release, the role of EMS is the triage, treatment, and transport of casualties that may have resulted from exposure to a hazardous material. EMS response requires extreme caution to insure the safety of the EMS team. At on-scene arrival, EMS will:

- Report to Command Post Liaison Officer
- Dedicate personnel to monitor and treat the entry team.
- Treat and transport victims.
- Notify all hospitals that a release has taken place, its location, the material involved, and possible number of victims.

Procedures and Abilities of Fire Department and EMS personnel to recover, treat, and transport victims of a release

Personnel Requirements

- Medics: Must have at least two people on the vehicle, a minimum of one state-certified paramedic. All personnel must be trained to a Hazardous Materials Awareness Level but are encouraged to be trained to a Hazardous Materials Operations level.

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- Squads: Must have at least two state-certified EMT's on a vehicle. All personnel must be trained to a Hazardous Materials Awareness Level but are encouraged to be trained to a Hazardous Materials Operations level.
- Vehicles should be supplied with triage tags, a minimum of five hooded, booted Tyvek suits, and two disposable body bags.
- Victims shall be transported in vehicles conforming to current ambulance standards. Emergency personnel operating the transport vehicle shall meet all current certifications mandated by the Ohio Department of Public Safety for their level of certification.

Procedures

- Upon arrival at the scene EMS personnel will assess the situation by:
 - Determining if hazardous material has been identified
 - Determining the health and safety risk of the substance involved
 - Determining the signs and symptoms of poisoning
- During an incident, EMS units will provide for the treatment of victims these duties include:
 - Establish a triage area.
 - Provide for victim treatment and transportation.
 - Administer initial emergency care to victims.
 - Report victim information to the receiving hospital in a timely manner.

Procedures and Abilities of Hospital

Knox Community Hospital

- Knox Community Hospital (KCH) has the ability to handle contaminated patients and have in place internal operating procedures for handling a hazardous material incident.
 - Specific hospital and emergency room personnel are prepared for individual problems associated with contaminated victims.
 - If the situation warrants a hospital evacuation, hospital procedures will be followed.
 - KCH has procedures in place to protect crews and equipment from contamination.

Fire Departments and EMS

- All responders shall follow Incident Commander's guidance regarding protective gear, exposure time, distance, evacuation, and decontamination.
- Fire Departments have decontamination capabilities:
- EMS personnel will help with physical exams of personnel following decontamination.
- EMS Units will:
 - Assist Safety Officer with monitoring of personnel in protective gear.
 - Dedicate an EMS squad to assist the entry team.
 - Ensure individuals in encapsulated suits receive fluids and have vital signs taken and recorded prior to entering the "hot zone". The same procedure should be followed when individuals are removed from encapsulated suits and protective gear.
 - Establish and assist with the appropriate decontamination of personnel equipment.

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- Secure plastic sheeting within the transportation vehicle to prevent contamination.
- Upon termination of the incident check that appropriate personnel and equipment decontamination has been completed.
- When operations are complete, EMS specialists will proceed to and help with physical exams on personnel, following decontamination.

Coordination of EMS Operations with On-scene Commander

Upon arrival at the scene, EMS personnel will check-in with the Incident Commander. EMS operations will be coordinated through the Transportation Officer to the Incident Commander or directly with the Incident Commander if no Transportation Officer is designated.

Standard Site Set-up

The EMS site will be established by the EMS Officer after meeting with the Incident Commander. This location should be in the Cold Zone in close proximity to the entry and decontamination area, preferably close to the HAZMAT EMS Division.

- Each member shall have proper protective clothing as required for each incident.
- EMS vehicles and equipment should be staged for easy access as necessary.
- A Rehabilitation Area should be designated to provide a rest area for fire personnel, and civilians needing a resting place. This area should be large enough to allow for EMS to evaluate people if necessary.
- The set up position should allow for easy entrance and egress for extra EMS equipment.

Coordination with Hospital/Medical Centers for Patient Care and Transport

- The Triage and Transportation Officers will jointly determine the number of vehicles needed for transportation.
- Victims will be transported to area hospitals in order of the severity of their injuries.
- The Transportation Officer will be responsible for providing transport vehicles from the staging area.
- The Transportation Group will advise the EMS Branch of the number and condition of patients being transported in each vehicle. This will be relayed by the EMS Branch to the Command Post and to receiving hospitals.
- When additional vehicles are needed, a specific request should go from the Transportation Officer to the Incident Commander to the dispatcher. The dispatcher will arrange for additional EMS transportation vehicles.
- Private ambulances will be used to supplement EMS vehicles.

HAZMAT Team Monitoring and Support

The Incident Commander will establish a Rehabilitation Group when conditions indicate that rest and rehabilitation are needed for personnel operating at an incident scene.

The Rehabilitation Group provisions shall include:

- Medical evacuation
- Treatment and monitoring
- Food and fluid replenishment

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- Mental rest relief from extreme climatic conditions
- EMS services for responders should be provided and staffed by the most highly trained and qualified EMS personnel on the scene (at minimum of BLS level).
- Based on discretion of the Rehab Officer and/or EMS crews, members will be observed, examined, vital signs evaluated, and a disposition made (return to duty, continued rehabilitation, or medical treatment and/or transport to a medical facility).
- Continued rehabilitation shall consist of additional monitoring of vital signs, providing rest, and providing fluids for rehydration.
- EMS personnel shall be assertive in an effort to find potential medical problems early.

Priorities for Use of Medical Resources during an Emergency

EMS in Knox County operates under the Incident Command System. This system establishes a standard structure and guidelines for private/public sector resource integration and the integrated operation of fire, squad, medic and rescue companies. EMS will coordinate with KCH when making decisions on treatment, transport and tracking of patients. The Incident Commander will assign an EMS Operations Officer to be in charge of EMS responsibilities that will include:

- Evaluating the situation and reporting to the Incident Commander.
- Coordinate actions of extrication, triage and treatment groups.
- Field treatment, stabilization and preparation of patients for transportation.
- Provisions for transportation of victims.
- Distribution of patients to medical facilities.
- Provisions for medical resources as required at the scene.
- Institute documentation system to include: patient demographics, injury
- Description, treatment/medical facility destination

Triage is responsible for prioritizing the transportation and treatment of victims.

The Treatment Group will coordinate with other groups/divisions and report to EMS Branch the estimated number of victims, resources required and documentation needs and progress.

The Transportation Group will maintain hospital capacity status from the EMS Branch Director and will use this to allocate patients to appropriate facilities in consultation with the Treatment Group Leader.

KCH's emergency plan will be used to mobilize personnel. Patients will be received according to the established plans and procedures.

Hospital/Medical Center Coordination with On-scene Agencies

All communications will be funneled through the EMS Operations Officer and coordinated with the local hospital's plans. Communication will also involve the KPH. KPH will coordinate their response through the EMS Branch on site. KPH will provide information to the EMS Director and Incident Commander at the scene. The Command Post will update the KPH as the situation changes and/or more data becomes available.

Protection of Hospital Personnel and Equipment from Contamination

Victims shall be decontaminated before putting them in transport vehicle. If a contaminated person requires immediate treatment and transport. Prior to transport, the victim should be wrapped in clean sheets. The receiving hospital must be notified as soon as possible that incoming patient is contaminated so arrangements can be made for receiving the patient. As part of their plan for these events, hospitals and other medical facilities have decontamination, security procedures, equipment, and trained personnel to initiate patient decontamination for large numbers of patients at their facilities.

Victim Support by Mental Health Specialists

Private/public mental health organizations along with the American Red Cross will provide mental health support for victims and workers.

The Role of the Coroner

The Knox County Coroner's Office will be responsible for determining how hazardous material exposure related deaths will be handled. The Coroner's Office will:

- Coordinate local resources for the collection, identification and deposition of deceased persons and human tissue. Coordinate with search and rescue teams.
- Select sites to establish temporary morgues and the personnel to staff them.
- Coordinate services of funeral directors, ambulances, EMS, other pathologists, dentists and x-ray technicians for the identification of bodies. Assist in the transport of the deceased. Provide emergency information to the news media on the number of deaths, morgue operations, etc., as appropriate.

Use and Coordination of Outside Agencies

KPH

The Command Post staff member or EMS Director will notify KPH in the event a release poses a danger to the population. KPH will:

- Contact responding agency to verify material information
- Perform research on the material involved for personal protection data, emergency medical information, and decontamination procedures.
- Provide data to incident command.

Ohio Department of Health

KPH will coordinate with the Ohio Department of Health. The Ohio Department of Health will:

- Provide support and assistance to KPH as requested. Such support may consist of sanitarians and toxicologists.
- Provide supplies and resources as requested.
- Assist with public health advisories.

Central Ohio Poison Center

The Central Ohio Poison Center will be contacted to provide chemical/medical treatment information and other pertinent data.

Ohio Environmental Protection Agency

The Ohio EPA upon receipt of the incident report will assign on-scene coordinator. Ohio EPA will also monitor contamination and pollution of the environment as well as oversee clean-up procedures.

8. Personal Protection of Citizens

The release of a hazardous material may pose a risk to the public. Measures will be taken to protect the public by providing accurate and timely public information, determining the appropriate protective measures - evacuation or in-place sheltering, and providing for public sheltering and mass care if appropriate.

a. Evacuation Procedures

If there is a perception that there is or may soon be an unacceptable level of risk to the health and safety of people in a given area, evacuation procedures may be activated. General evacuation procedures and responsibilities are detailed in the Knox County Emergency Operations Plan, Annex J.

Implementation of Evacuation Procedures

The Incident Commander

The Incident Commander will decide if and when an evacuation will take place and whether personal protection will involve in-place sheltering or withdrawal and sheltering away from the area. The Incident Commander will:

- Define the area requiring in-place sheltering/evacuation.
- Determine the degree of immediacy (is action precautionary or does it require immediate action).
- Define areas of priority based on wind direction and speed, toxicity of the substance, exposure potential, etc.
- Advise law enforcement of the area to be evacuated.
- Initiate alert and notification of organizations having an evacuation role.
- Assist law enforcement in warning and supervising the withdrawal of people.
- Insure that all hospitals have been notified that a release has taken place, its location, the material involved, and possible number of victims.

Law Enforcement

Law enforcement will be charged with actually executing the evacuation. Upon identification of an evacuation zone boundary by the Incident Commander, the ranking law enforcement official at the Command Post should determine:

- The geographical outer boundary of the evacuation zone (Selecting natural boundaries such as rivers, freeways, and railroad tracks or easily recognizable major streets as the outer perimeter).
- Location of assembly points.
- General traffic flow patterns and the location of road blocks.
- Number of available personnel (consider mutual aid requests).

Hazardous Materials

- Location of staging areas for government and support personnel that will be involved in the evacuation.
- Warning message content.

Law Enforcement will also:

- Direct, coordinate, and implement the withdrawal.
- Initiate request for transportation support during the early phases of the withdrawal.
- Determine from a pre-existing list what assembly points will be used and assign an officer to provide information about the progress of the incident to the evacuees until relieved or assisted by ARC personnel.
- Notify and update the media.
- Provide security for evacuated area including governmental and non-governmental facilities and shelters.

The American Red Cross

- Evacuation responsibilities of the ARC are:
 - Provide mass care operations for evacuees.
 - Assist with congregate care facility evacuation.
 - Assign liaison personnel at the Command Post and the EOC.

KPH

KPH will provide health effects assessments as required during the incident.

The Affected Jurisdiction

The affected jurisdiction will:

- Provide a representative to the EOC as needed.
- Provide affected population resource data as requested or as available.
- Provide field operations support.
- Assist with coordination and implementation of evacuation of care facility(s) and other special facilities.
- Coordinate with the EOC for: shelter openings, food and support for response personnel, evacuee information, communication, return of evacuees.
- Notify other political jurisdictions that may be affected.

The Knox County Emergency Management Agency

Knox County EMA will operate from the command post or activate the county EOC if needed.

Duties will include:

- Provide affected population resource data as requested or as available.
- Provide field operations support personnel at the Command Post.
- Assist with coordination of congregate care facility evacuation.
- Provide a central location for obtaining resources.

Mobile Command Vehicle

If desired due to the location, weather, type of incident or other circumstances; it may be desirable to utilize a mobile command vehicle. Requests for a mobile command vehicle should be made through Knox County EMA. The mobilization, use, and demobilization of this resource will follow the established standard operating procedures.

Public Notification

The fire department will be the primary community point of alert and notification of hazardous material incidents. When an incident is perceived to require an evacuation, notification should begin as soon as possible to provide ample time for non-24 hour agencies to respond. The affected political jurisdiction is responsible for notifying other political jurisdictions that may be affected. The first available forces should be used to notify the priority area by:

- Utilization of the county's mass notification system
- Vehicle siren
- Vehicle public address system
- Officers going door-to-door. Neighbors should be used as an information source about elderly/handicapped in the area.
- Outer-perimeter evacuation zone officers should be informed of the location of assembly points in order to advise citizens trying to enter the area.
- Media and Social Media - Used to notify the area to be evacuated, assembly points, and to provide emergency instructions.
- The Integrated Public Alert Warning System (IPAWS).
- News of the evacuation will reach beyond the affected area. Providing timely and accurate data to the population at risk outweighs the cost of curiosity calls and possible observers from unaffected areas.

Protective Action Advice to the Public

Affected individuals will be warned of the potential threat and recommendations given for appropriate safety actions to limit or reduce the chance of injury, loss of life or damage to property. The specific course of action will be based on available data and professional assessment. Individuals may be requested to withdraw from an area. Specific information will be given on:

- Area to be evacuated
- Evacuation routes
- Assembly points
- Mass care shelters
- Supplies to take with them
- Instructions for pets
- Instructions for safe return to their homes after the incident
- In some situations, individuals will be instructed to shelter where they are until the danger passes.
- Once the danger has passed the affected population must again be notified that they may return to normal activities. Additional instructions will be given such as health advisories, instructions on how to air out buildings, etc.

Movement of Evacuees

- Individuals will be asked to use their own vehicles if possible.
- Neighbors will be requested to assist those who do not have transportation.

Hazardous Materials

- Emergency response vehicles may be used for transport, if available. These would include cruisers, vans, squads, and medics.
- School districts may be requested to provide school busses as needed.
- Knox Area Transit (KAT) may be requested to provide vehicles as needed. KAT vehicles are assessable by persons with disabilities.
- Community/mutual aid departments may assist with the withdrawal.
- Developmental disabilities wheel-chair vans plus private ambulances will be used to move the physically impaired.
- Several agencies within Knox County maintain lists of individuals with functional needs. These lists can include medical and transportation data. This information is used by some fire and EMS departments on routine runs and can be accessed during evacuations.
- Transportation services may be requested directly by the incident command or by Knox County EMA.

Evacuation Route Determination

Once the evacuation zone has been identified by the Incident Commander, law enforcement will determine evacuation routes and alternate routes based on: location of the incident, toxicity of substance, explosive potential, location and movement of any chemical plume, the time of day, weather conditions and the size of the area and population to be evacuated. A change in any of these variables could necessitate moving from a primary route to an alternate route.

Conditions Necessary to Initiate an Evacuation

An evacuation is undertaken when it is perceived there is or may soon be an unacceptable level of risk to health and/or safety of people in a given area, and the evacuation can be executed safely.

Management of Traffic Flow and Security

Traffic Control

The ranking law enforcement person at the command post will determine the traffic control points and detours. The Incident Commander would be consulted to determine if the traffic control locations and patterns will be outside a potential danger zone. Officers will be assigned to designated intersections with relief shift rotation. Traffic control barricades should be used when possible to receive officers.

Security

Law enforcement will provide security for the evacuated area to prevent looting and possible problems with unauthorized personnel. Other officers will be assigned to shelters and critical facilities/resources as needed. Security and assistance will also be provided to the incident scene, Incident Commander and Command Post.

Returning Evacuees to their Homes

- KPH will determine return criteria and issue a statement, with the EPA and Incident Commander, through the Public Information Officer, authorizing the return of evacuees. The public will be notified through the electronic media.

Hazardous Materials

- The Ohio EPA will, if requested, provide information on the toxicity of the hazardous material and advice/recommendations regarding withdrawal and return requirements.
- Depending on the size of the area evacuated, the return may be conducted by evacuation zones, with evacuees returned in reverse of their departure.
- If the population needed special transportation to leave the area, that transportation will be made available to return evacuees.
- Law enforcement will still be responsible for traffic control and the orderly return of motor vehicles. The policy of “first evacuated (closest to the scene) last to return” will be used when possible.
- The ARC will provide assistance by disseminating return information at the shelters and communicating with the EOC on transportation needs for each shelter.

Informing Evacuees of Health Concerns or Actions to Take When Returning to Homes or Businesses

KPH will engage in hazardous material analysis, evaluating the potential health risks associated with the hazard and recommend the appropriate correctional measure, with assistance from the Ohio Department of Health and will issue public health advisories.

Public Health Advisories will be released through the PIO to the electronic media for dissemination to the public.

b. Sheltering and Mass Care

Responsible Agencies and Procedures for Implementing Mass Care Provisions

The ARC is directly responsible for organizing sheltering services in cooperation with the Knox County EMA. Other county and private agencies may also assist in shelter operations. A detailed description of sheltering procedures can be found in the Knox County EOP, Annex K. Shelter Officials will coordinate with the EOC to provide protective actions necessary.

- When people are advised to evacuate an area by officials, instructions on appropriate assembly points, shelters, or mass care feeding facilities will be coordinated by the County EMA through:
 - Emergency public information broadcasts over radio/TV.
 - Social Media
 - Neighborhood announcements from emergency response vehicles with public address systems.
 - Door-to-door notification by emergency response personnel.
 - Knox County’s mass notification system

During a large evacuation, evacuees will be directed to assembly points for registration and assignment to a shelter by the ARC. Shelters will be designated by the ARC based on the safe location and availability of the structure using facilities that have signed agreements with ARC. Congregate Care facilities and functional needs organizations will work in cooperation with the Knox County EMA in designating alternate locations if evacuation and sheltering are necessary. In additions to sheltering the ARC will be responsible for mass feeding operations.

Coordination of Shelters and Response/Support Agencies

The ARC will provide a representative at the EOC upon its activation. All aspects of activating, staffing and running shelters will be coordinated through this individual. The Red Cross will coordinate sheltering activities with EMA and together will determine the extent of assistance needed from other governmental and non-profit organizations.

Screening and Handling of Evacuees Exposed to an EHS

EMS units will provide triage and decontamination of those potentially exposed to an EHS.

Procedures to Keep Shelters Free of Contamination

The ARC has regulations and procedures for monitoring and decontamination activities located at reception or staging centers. When these activities must occur at shelters, it is crucial that decontamination activities and evacuees who have not yet been monitored be strictly segregated from those who have been monitored. Decontamination procedures will be done by fire and EMS departments not by shelter providers.

Medical Personnel Support to Shelter Operations

- Provide medical teams to shelter locations for ill or injured sheltered.
- Provide EMS units for emergency transport to hospital and other medical facilities.
- Provide evacuation to hospitals for sheltered who may become critically ill or injured.
- Provide information on health/medical related issues.
- Provide registered nurses to supplement Red Cross staff.

Arrangements with other Districts

When the situation is of such magnitude to warrant additional support (technical/logistical) such aid and assistance may be requested in accordance with existing mutual aid agreements. This support may be furnished by neighboring jurisdictions in accordance with mutual aid and other agreements.

c. In-Place Sheltering

The decision to enact In-place sheltering as opposed to a general evacuation is made by the Incident Commander. In-place sheltering is viable when:

- The nature and concentration of the chemical in the plume is not life threatening but could be quite noxious.
- The size of the release and given atmospheric conditions indicates rapid dispersal of the chemical.
- When a toxic plume approaches so rapidly that timely evacuation cannot be carried out.
- The decision to shelter in place will be based on:
 - the material that has been released
 - the material's properties, toxicity
 - the anticipated arrival time of the plume (not enough time to evacuate)
 - the time required to safely evacuate the endangered population from the area
- Once the decision to in-place shelter has been made:
 - The in-place shelter zone will be identified by the Incident Commander.
 - The endangered population must be warned and given instructions based on the specific hazard as previously outlined.

Protective Actions for the Public

- The public will be advised to:
 - Go indoors (home, school, and office)
 - Shut off all outside air sources (doors, windows, fans, air conditioners/furnaces)
 - Tune to radio/TV stations and follow any additional instructions

Determining when to terminate the protective action

- On-scene field forces will assess the situation and monitor the air, water, and soil to determine if the situation is worsening or dissipating.
- The appropriate KPH representatives will work with the Ohio Environmental Protection Agency and the Incident Commander to determine when the protective action is no longer necessary.

Informing the Public to Terminate Sheltering

Once it has been determined that protective actions are no longer necessary the affected population must again be notified that they may return to normal activities. This will be accomplished in the same manner used to warn them to take shelter.

Although the all-clear is given, there may be restrictions placed eating or drinking, or keeping clear of areas that may have been contaminated. Any necessary restrictions will be announced at the same time the all-clear notification is issued. Residents will also be given instructions on how to air out buildings and any monitoring necessary.

d. Public Information

Agencies and Methods Used to Warn the Public

The 9-1-1 Dispatch Center serves as the primary continuous 24-hour county warning point to alert key officials and activate the outdoor warning system. The 9-1-1 has standard operating guidelines for activating the outdoor warning system. Notification of governmental departments and agencies is conducted through the use of the telephone, radio, or Knox Alerts.

Systems in Place for Public Warning

Public warning information will be disseminated immediately after the Incident Commander determines public notification is necessary. Public notification is accomplished by:

- Knox County's emergency notification system
- The sounding of sirens
- Special media broadcasts (Radio, TV, Cable Stations, emails, social media)
- Use of the IPAWS
- Door-to-door notification

Knox County's Mass Notification System

Knox County's mass notification system is a vendor provided product provided by Inspiron Logistics, LLC. The system serves as a reverse 9-1-1 notification system as well as a Wireless Emergency Notification System which provides emergency notifications by sending voice, text, page and email messages to traditional and wireless devices.

The EMA Director and County 9-1-1 personnel have the ability to send countywide emergency notifications utilizing this system. This system is also used to activate IPAWS.

The Integrated Public Alert and Warning System (IPAWS)

IPAWS is designed to integrate the nation's existing population warning systems into one modern network and incorporate newer forms of communication such as cellular telephone and text message, satellite and cable television, electronic billboards and the internet.

- Knox County EMA has entered into an agreement with FEMA to access IPAWS through a third party vendor. The third party vendor utilizes their existing systems to send alerts to all IPAWS messaging outlets.
- IPAWS is utilized in emergencies which pose an immediate threat to health, life safety or property.
- The EMA Director is the designated official authorized to send IPAWS messages. Other local officials must request IPAWS activation through the EMA Director or designee.

Message

- Officials requesting IPAWS messaging should have all information to be communicated prepared and ready to send. Prepared information should contain the type of emergency, area affected, and action that should be taken.

The Outdoor Siren Warning System

Knox County's outdoor warning sirens are located throughout the county and are identified in Annex C.

Door-to-Door Notification

Door-to-door notification will be used if sufficient time exists and can be done without endangering emergency personnel.

Notification of Functional Needs Populations

Warning and notification of hearing or visually impaired and non-English speaking persons will be accomplished by public officials at the local jurisdiction level.

Public Information Coordination

Dissemination of public information will be made from the EOC via social media, news conferences, interviews, and issuing press releases. This will serve as the single official point of contact and release of information. All organizations involved in emergency response and recovery and having requirements to release information to media will cooperate with EOC procedures set up by the designated Public Information Officer (PIO). The PIO manages the public information activities at the EOC in coordination with the Executive Group and representatives in the EOC and the Incident Command Post at the incident scene.

Media Role

Media representatives will receive public information briefings and releases from the EOC through the PIO. Media resources will inform the public of:

- A description of the emergency condition.
- Evacuation and sheltering instructions.
- The type and availability of assistance.
- A description of any health risks.
- Notification for safe return to homes.

Sample IPAWS messages

Sample IPAWS messages are included in **Tab G** of this document.

Rumor Control

Effort will be made to inhibit the development of rumors by maintaining a constant flow of official incident information to the media. Designated personnel with dedicated phone lines will handle inquiries from the public. The dedicated phone lines will be for public inquiries. Media calls will be sent to the PIO. Call takers will be kept up to date on the disaster situation through briefings, fact sheets, and press releases. Local TV, radio and print will be monitored for accuracy.

D. Recovery Methods

1. Clean-up and Disposal

The clean-up and disposal process will be coordinated by the Incident Commander in conjunction with the Ohio Environmental Protection Agency, KPH, facility or transporter personnel, and private cleanup contractor.

a. Minor Spills or Releases

For minor spills or releases first responders should use the appropriate technique for the situation. Such techniques may include, but are not limited to flushing the area with water or gathering the contaminant into DOT permitted drums for proper disposal.

b. Major Spills or Releases

If the situation goes beyond emergency responder's capabilities, private contractors will be called in at the expense of the spiller. Techniques may include hydraulic and mechanical dredging, excavating, skimming, pumping, dispersion/dilution, and vacuuming. Note: For billing purposes, only the party responsible for the spill or release should call the private clean-up companies.

Restoration recommendations during an incident will be made by the Ohio Environmental Protection Agency. The Ohio Environmental Protection Agency on-scene coordinator, Incident Commander, and KPH will determine return criteria and issue a statement through the PIO authorizing the return of evacuees. KPH may also provide epidemiological studies following the incident in conjunction with the Ohio Department of Health.

Hazardous Materials

KPH will test or provide for testing of water, air, soil or food as applicable. Following the removal of hazardous materials from the clean-up, the affected area must be returned to its original condition when feasible under the supervision of the Ohio EPA. If residual contamination remains and it is determined that additional removal is not feasible, a site closure plan should be written for review by applicable state and federal agencies.

2. Investigative Follow-up

An incident log and any accompanying documents must be kept for future reference, compiling historical reports, and possible litigation. Each response agency will submit documentation to the Knox County EMA explaining:

- Notification method
- Time of response
- Tasks performed
- Other locations pertinent to the incident where personnel were maintained (e.g., shelters, operations center, etc.)
- List of any problems encountered

Investigative follow-up responsibilities are:

- Circumstances of the release - Fire Department
- Possible criminal activity - Law Enforcement
- Recovery of clean-up costs - County EMA and Prosecutor
- LEPC information repository – County EMA

3. Documentation and Critique

a. Documentation

Documentation for a hazardous material incident will follow that which is currently required within each department and agency. A copy of all reports will be sent to the LEPC Community Emergency Coordinator.

Two reports are required specifically for a hazardous material incident. Ohio Fire Incident report which is uploaded to the National Fire Incident Reporting System (NFIRS/OFIRS) and the Chemical Emergency Reporting Form as required by the Superfund Amendments and Reauthorization Act.

When an emergency response agency is notified of a hazardous material incident they should document their actions. Each group responding to a hazardous material incident will have a form to capture information pertinent to their response. Audio tape and video tape may be used to provide additional documentation. An incident information summary form can be found in **Tab B**.

Hazardous Materials

The Knox County EMA will serve as the LEPC clearinghouse of hazardous material incident information within Knox County. This data will be used to compile statistical data on a number of areas including:

- Number of releases per year
- Location
- Material name
- Type of container
- Amount of material released
- Number, names, and uses of support groups
- Product released cross-referenced with the amount of that material transported through Knox County annually.
- Equipment used during the incident that will need to be replaced.
- Determine if plan changes are required after review of incident reports.

b. Critique

Within two (2) weeks after the incident has been contained a formal response debriefing will take place. This should be set up by the local jurisdiction fire department or can be facilitated by EMA. The participants will be limited to the response agencies. This group will discuss the incident, each group's response, and any recommended changes in plans or procedures.

Each agency will review and if necessary update standard operating guidelines and procedures considering recommendations from the critique. Likewise, any opportunities for improvement will be reviewed and incorporated by EMA into the county plan and by the LEPC Planning Committee into the Hazardous Materials Annex.

4. Cost Recovery

The Ohio Revised Code, Section 3750.13 states that any person responsible for causing or allowing an unauthorized spill, release, or discharge of a material into or upon the environment is liable for the necessary and reasonable, additional or extraordinary costs incurred by responding organizations. It is at the discretion of the responding department's chief whether an invoice will be submitted for reimbursable expenses for his/her department/division.

Procedures

An incident managed by a single department may invoice directly or through the Knox County EMA. If invoicing directly, a copy should be sent to the county EMA. All multi-jurisdictional incidents will be submitted to the responsible party as a single invoice by the county EMA. The jurisdictional fire department will provide a list of all responding departments or agencies when they submit their invoice.

All invoices will be submitted to EMA within two weeks after the incident. Each responding department's financial person needs to maintain records to verify all expenditures in order to recover those costs. Knox County EMA will include a 15% administrative charge in addition to the total invoice.

Hazardous Materials

The following are examples of recoverable expenditures:

- wages, including overtime
- clean-up materials expended
- contractual materials (e.g. lights, cranes)
- food
- transportation costs for special needs evacuees
- containment materials and supplies
- communication costs
- damaged equipment

If a settlement in full cannot be reached with the responsible parties, the community of jurisdiction and its legal counsel and/or the county EMA and its legal counsel are authorized to negotiate a settlement or bring civil suit against the responsible party.

USEPA Cost Recovery Program

The intent of the reimbursement program is to alleviate significant financial burden on a local government resulting from temporary emergency measures taken in response to hazardous substance, pollutant, or contamination threats. Reimbursement is available only to local government. Only one request for reimbursement will be accepted for each hazardous substance release or threat requiring immediate response at the local level. If more than one agency has participated, a single agency must be designated to submit the request on behalf of all. When evaluating the request, EPA will consider the financial burden the incident places on the jurisdiction and any other relevant financial information. Governments may not be reimbursed for all costs incurred.

Some rules for applicants:

- Petroleum is excluded. Federal contact is required within 24 hours, either EPA or NRC.
- Title III participation is required. Applications must be received by EPA within one year.
- Cost recovery from responsible parties, local insurance and the state must have been or are being pursued prior to applying for reimbursement.
- Detailed costs must be included with supporting documentation. The application must be signed by the local government's highest ranking official.

IV. Plan Maintenance

A. Annual Plan Exercise

The LEPC Exercise Design Subcommittee will oversee the implementation of plan testing procedures. All exercises will be developed and conducted in accordance with SERC rules and requirements. The committee must notify SERC of the intention to conduct an exercise a minimum of 60 days before the date of the exercise, if the exercise is to be reviewed for credit.

1. *Developing and Conducting the Annual Exercise*

In order to move exercises around the county, each fire department within the county is invited to host the annual SERC exercise. The LEPC Exercise Design Subcommittee determines the site based on type of exercise, after action reports, actual incidents, and jurisdictions willing to participate. The goal is to involve different response organizations and facilities and to build a countywide coordinated response capability. The LEPC Exercise Design Subcommittee will coordinate and assign tasks for the exercise.

The Exercise Design Team will:

- Insure the exercises meet all SERC requirements.
- Choose the type and scale of the exercise.
- Choose which objectives are to be exercised.
- Identify which chemicals will be involved, released, spilled and from what type of container.
- Develop a realistic scenario involving a facility subject to the plan or a transporter of hazardous materials.

2. *Exercise Schedule*

In accordance with the Ohio Hazardous Material Exercise and Evaluation Manual an exercise will be conducted annually as part of a four-year exercise cycle. The SERC defines the 'annual' exercise year to be the State Fiscal Year (SFY) which is July 1st to June 30th. This rule then notes that there is a recurring, four-year, exercise cycle.

The next requirement of the four-year cycle is that the LEPC must fully activate and evaluate their primary EOC at least once in the four-year period. An EOC, identified in the Plan, is activated for a period of time sufficient to evaluate all identified objectives. The phrase 'fully activate' means the majority of the EOC members are involved and the site's equipment is 'physically' used. Players will respond to simulated events in the field or will actively work with players in the field to manage the scenario. This evaluation will need to be accomplished during either a Functional or Full-Scale exercise.

A Table-Top exercise will not fulfill this requirement since Table-Tops do not physically use equipment during the exercise. It is the LEPC's option on whether or not they wish to test or activate the alternate EOCs during the four-year cycle.

All objectives will be tested a minimum of one time during the four-year exercise cycle. To the extent possible, an EHS Facility or Hazardous Material Transporter, in addition to local response and medical personnel, will be involved in each exercise. Facilities will be encouraged to participate in the process as a benefit to their operations and at the same time demonstrate their commitment to public safety.

Types of Exercises

The following types of exercises will be used, with each demonstrating a specific number of OHM-EEM objectives.

Table Top Exercise

A Table Top Exercise is used to exercise selected portions of the plan without using field or functional demonstrations. These exercises permit department or agency representatives to describe and act out the various actions they would deploy during an actual incident. The Table Top exercise shall demonstrate three or more objectives with at least one being a core objective.

Functional Exercises

A Functional Exercise involves testing or evaluating the capability of individual or multiple functions or activities, i.e., actual operation of the EOC, an Incident Command Post, a media staging area and the deployment of equipment to demonstrate activities of the personnel involved, etc. The Functional Exercise shall demonstrate four or more objectives.

Full Scale Exercises

A Full Scale Exercise uses equipment and procedures in which emergency management and response organizations perform the actions they would take during the emergency caused by the release of oil or a hazardous substance. A full scale exercise shall demonstrate eight or more objectives.

Exercise Evaluation and Critique

Evaluation

- It is the responsibility of the Exercise Design Subcommittee to select evaluators. Evaluators must be knowledgeable in the area they are being asked to evaluate. Evaluators must be identified on the 60-day notice.
- The Evaluators will be provided within 30 days, a copy of the scenario, the portion of the plan that is being tested, and the evaluations forms.
- It is preferable that an evaluator evaluate only one objective. However, an evaluator may evaluate two or three objectives if they are demonstrated at the same location, and the evaluator is trained and capable of evaluating the assigned objectives.
- Each objective has a number of Points of Review which are collectively used to evaluate the demonstration of the specific objectives during the exercise.
- The evaluators' comments and observations are the basis of the facilitator's report.
- The facilitator will serve as the official representative of SERC. SERC has identified Ohio EMA to provide facilitators for the exercises.
- The facilitator will collect the exercise information and evaluation documents from the evaluators immediately following the exercise and use this information to write the official report and make the appropriate recommendation to the SERC for concurrence or non-concurrence.
- LEPC members should not serve as an exercise evaluator.

Critique

If the exercise is a Full Scale Exercise, the scheduling of the public critique is the responsibility of LEPC and must be coordinated with the Facilitator. Evaluators will participate in the critique and critique the objectives they were asked to evaluate. Their critique should address:

- The portions of the exercise and the objective they were assigned to evaluate.
- What actions were done well and address those areas which need further attention and/or training and make recommendations.
- Questions from the participants.

The LEPC should host a formal public meeting with the SERC Facilitator, supported by the Evaluators, conducting an open forum critique and discussion with all of the players and public on the exercise. This meeting could be held at a regularly scheduled LEPC meeting or at a special public meeting.

Plan Changes

Upon completion on an exercise, the LEPC needs to assess the results of the exercise to identify the plan's strengths and weaknesses, assess the adequacy of the training programs, and determine the need for additional training or modification to the plan. These items will be identified by completing an After Action Review (AAR) of the exercise.

A Corrective Action Plan will be required when an evaluator and the facilitator determine that an exercise did not adequately demonstrate a majority of points for a specific objective. In this case, Ohio EMA will forward the exercise report to the LEPC and direct them to develop a Corrective Action Plan. This plan must identify what actions have been taken or will be taken to correct those points considered to be not met for a specific objective.

The LEPC has sixty days from the receipt of the report to identify the corrections and to submit their plan to Ohio EMA. Ohio EMA will review the plan and determine if it adequately resolves the exercise issues. In turn, Ohio EMA will provide this plan, the exercise report, and the facilitator's recommendation to concur or not with the exercise to SERC for their consideration.

When a Corrective Action Plan is not needed an AAR will still be completed. The AAR will identify opportunities for improvement for both planning and training. Training items identified will be incorporated in the training and exercise plan for the following year. This will insure the identified improvements take place.

Exercise Credit for Actual Incidents

In accordance with exercise rules, an actual response to an unauthorized release of hazardous substance may qualify as an annual exercise. If an actual incident is to be used, requirements established for each exercise type will be followed.

LEPC must submit to Ohio EMA the Exercise Notice, along with a written summary of the incident in place of an exercise scenario, within 30 days following the actual date of the release and indicate what type of exercise and which objectives LEPC wants to claim for exercise credit.

The County's designated Ohio EMA Field Liaison then arrange to meet and interview LEPC, EMA, and response officials and review the message logs, newspaper articles, and other materials from the incident and to discuss the response to the incident to determine what credit can be granted. The Ohio EMA Field Liaison will write the exercise report and forward it to SERC for their actions.

Reasons to Exercise

Exercising is part of the continual planning process; hazard analysis, planning, training, and exercising. Each function is dependent upon the other and should not be viewed in isolation. Exercising is one of the best means for:

- Assessing emergency plans and procedures.
- Determining the readiness of emergency responders.
- Identifying training needs.
- Resolving questions of coordination.
- Clarifying roles and responsibilities.
- Exercising promotes awareness of potential hazards within the county
- An exercise can be a powerful stimulus for building interest in developing comprehensive local emergency plan.

B. Plan Review and Update

1. Individual Plan Holder's Responsibilities

The individual plan holder, especially those with a role in the plan, should review the plan making sure it corresponds with their plans and Standard Operating Guidelines. Any changes which need to be made should be submitted to LEPC. Plan holders can use the plan review process as a training tool to familiarize personnel with the use and applicability of the plan.

2. The LEPC's Role in Plan Revision

The LEPC will insure the plan meets the requirements of ORC 3750, rules as adopted, and NRT-1. The committee will review and complete the Ohio Hazardous Materials Plan Development and Evaluation document to ensure they have addressed the entire plan requirements. The Director of the Knox County EMA serves as the Community Emergency Coordinator and co-chairs the LEPC Contingency Planning Committee which is responsible for hazardous material response planning process. A majority of LEPC members must review the plan and concur with its contents.

3. Plan Distribution

The plan is distributed electronically on a USB external drive. Printed copies of the plan are available upon request. The plan distribution list is located in **Tab H**.

4. Updating the Plan

Updates are completed by critiquing actual incidents, evaluating simulated exercises, conducting department and individual personnel training and reviewing changing procedures and collected data.

Members of the Contingency Planning Subcommittee will meet periodically to review the plan using the Guidance Document. The Hazardous Material Annex will be reviewed by the SERC. Recommendations will be incorporated into the next update.

5. Documenting Changes

The plan and/or updates will be distributed to all holders of the county-wide Emergency Operations Plan. The plan will include a “Record of Amendments and Changes” sheet in the front section to help users stay abreast of all plan modifications. Changes will be consecutively numbered for ease of tracking.

6. Facilities Role in Plan Review

Facilities should use the plan review as a training tool to familiarize personnel with the plan and how actions are coordinated with their plan. Any deficiencies found should be submitted to LEPC for review and appropriate plan changes.

7. Cross Reference Use

The Hazardous Materials Plan Development and Evaluation document (AKA crosswalk) should be used to write a new plan, update an old plan, make corrections to an existing plan, or help educate plan holders on the plan’s contents.

The Planning process should begin with the review of the thirteen planning requirements identified in ORC 3750.04(A), and determine which requirements need to be addressed by the community. Next, prioritize which planning requirements are to be developed and in what order. Review the guidance document to find the related references to the requirements that are to be developed.

The “shall” blocks of information in the crosswalk should be reviewed and compared to information gathered. As information is developed and completed it should be ensured that each “shall” bullet is addressed. This should continue until the entire plan is completed and each block is checked off.

Once the plan is completed, the planning team should return to the beginning of the Guidance Document and identify where each block of information can be found in the plan.

8. Plan Availability to the Public

This annex can be found online at: <https://www.co.knox.oh.us/index.php/emergency-operations-plan>.

9. Submitting the Plan to SERC

When submitting the plan for annual review, the LEPC must submit the following:

- A letter explaining that the information enclosed, the plan, or plan updates, are being submitted for purpose of the annual review.
- A copy of LEPC’s resolution or other documentation signed by the Chairperson indicating that a majority of members have read the plan and/or updates and agrees with the material.
- The completed Hazardous Materials Planning crosswalk document.

Hazardous Materials

The entire plan must be submitted for review. If the plan is an Annex to the County EOP, a copy of the EOP must be submitted if it was also rewritten. If the EOP plan has been previously reviewed, only the changes need to be submitted to be part of the annual review. The Hazardous Material plan must be submitted to SERC for annual review by October 17th of each year.

V. Authorities and References

A. Legal Authorities

The following is a list of applicable Federal, State, and Local laws that apply to the development of this plan.

1. Federal

- Superfund Amendments and Reauthorization Act of 1986 Title III, Sections 301-330 as updated February 1, 2011
- Emergency Planning and Community Right-To-Know Act (EPCRA)
- Occupational Safety and Health Administration Regulation 1910.120 Fire Safety Guidelines

2. State

- Ohio Revised Code 5502 Emergency Management
- Ohio Revised Code 3750 (Superfund Amendments & Reauthorization Act)
- Ohio Revised Code 4950 (Hazardous Materials Transportation in Ohio)
- Ohio Revised Code Sections governing individual State Agencies
- ORC 2305.232 Good Samaritan Act
- The Ohio Administrative Code Title 37 – Chapter 50

B. References

The following is a list of some of the many general planning references and technical references that are available.

1. General Planning References

- Hazardous Materials Emergency Planning Guide (NRT-1) National Response Team, March 1987
- Hazardous Materials Plan Development Document State of Ohio, as revised 2013
- Technical Guidance for Hazardous Analysis US EPA

2. Technical Planning References

- North American Emergency Response Guidebook DOT, 2008
- NIOSH Pocket Guide to Chemical Hazards DHHS No 85-114, 1995

Hazardous Materials

- Fire Protection Guide to Hazardous Materials NFPA, 2010 edition

3. Computer Software Modeling

- CAMEO (Computer Aided Management of Emergency Operations) Suite of Programs that include:
 - CAMEO Data Manager
 - CAMEO Chemicals
 - MARPLOT (Mapping Application for Response and Planning of Local Operational Tasks)
 - ALOHA (Areal Location of Hazardous Atmospheres)

4. Location of References

- Knox County Emergency Management Agency

VI. Promulgation

A hazardous material incident response consists of many interrelated elements. All local government departments private support agencies, and the individual citizen could and would be involved. A hazardous material response in many instances merely requires an extension of daily activities. There is however an escalation of human need during a major incident.

This annex is based on the expertise acquired routinely each day and training procedures to enhance agency response during an unusual occurrence. Many lives can be lost in the confusion and disorganization that accompanies the lack of a full planning effort. Therefore, an integrated approach to hazardous material response is required. Planning must be a cooperative effort to avert or minimize the effects of a hazardous material incident. Two primary planning goals are to protect lives and property and to restore the stricken area to pre-incident status with a minimum of social and economic disruption.

This annex is a statement of policy about emergency response and assigns tasks and responsibilities to response agencies, specifying roles during a hazardous material situation. The document was developed pursuant to the Superfund Amendment and Reauthorization Act, 1986; Ohio Revised Code, sections 3750 and 5502; and the 1988 Knox County Emergency Management Agency's County-Wide Agreement.

VII. Authentication

Chair,
Local Emergency Planning Committee

Date

Director
Knox County Emergency Management Agency

Date

VII. Tabs

Tab A – Facility Data / Hazard Analysis Summaries

Tab B – Incident Information Summary Form

Tab C – Emergency Telephone Roster

Tab D – Abbreviations, Acronyms, and Definitions

Tab E – Checklists, Forms and Logs

Tab F – Chemical Incident Site Diagram

Tab G – Sample IPAWS Messages

Tab H – Plan Distribution List

Tab I - Three Minute Offense for Facilities

Tab J – Hazardous Materials Incident Levels