

WHAT IS INCLUDED IN AN LEPC EMERGENCY PLAN

EPCRA SECTION 303 – LEPC REGIONAL PLAN

LEPCs were required to create a regional emergency plan by 1988, two years after the U.S. Congress adopted EPCRA. Thereafter, the LEPC is required to review this regional emergency plan in a public meeting once a year, or more frequently as changed circumstances in the community or at any facility may require. There are many required aspects of this emergency plan, and they are all interconnected and interdependent.

LEPCs use the facility emergency plans and HSIS Survey information from facilities with sufficient quantities of extremely hazardous substances (EHS) on-site in promulgating and updating the LEPC regional emergency plan.

An example of changed circumstances in the community that could trigger this regional emergency plan review would be a new hospital or elder care facility opening near a facility with a large inventory of extremely hazardous substances (EHS).

An example of changed circumstances at any facility that could trigger this could be the addition of a new process or chemical at a facility that requires special planning for a large-scale disaster. A wastewater treatment facility, for example, could decide to start bringing in its chlorine in railcars rather than in one-ton cylinders. The off-site consequence for a release of a one-ton cylinder of chlorine is about 1.3 miles. The off-site consequence for a large railcar of chlorine could be as much as 14 miles.

(Even though the word release is commonly used in everyday language, a release is a specific legal term in emergency planning and response. There is also the “reportable quantity release” of a chemical, which varies for each of the chemicals. The SARA Title III List of Lists must be referred to when making these reportable quantity release determinations.)

EHS FACILITIES - PLANS AND INVENTORIES

The LEPC plan will be largely based upon the EHS facilities within its jurisdiction, with attention to the types and quantities of EHS chemicals reported. As noted in the previous module, facilities with enough Extremely Hazardous Substances, (chlorine, ammonia, sulfuric acid, etc.) on-site to trigger facility emergency plan requirements must provide their facility emergency plan to the LEPC as well as the OSAB and Fire Department/District with jurisdiction.

The LEPC compiles this data from all EHS facilities and makes updates to its regional emergency plan. The LEPC depends on facility plan updates to keep abreast of the changes in its jurisdiction.

TRANSPORTATION ROUTES OF EHS

Besides planning for incidents at stationary facilities, the LEPC plan must also take into account where EHS's are being transported. Going back to the chlorine railcar example, there would be a potential consequence 14 miles on either side of the route by rail of the railcar. It makes sense that these EHS chemicals have to arrive at the stationary facilities, and that an incident during transportation is possible.

PROXIMITY OF LAND USES MAY BRING ADDITIONAL RISKS

The LEPC must also identify facilities that are contributing to, or subjected to an additional risk due to their proximity to EHS facilities. A hospital wants to locate near a wastewater facility with large inventories of chlorine. A wastewater facility decides to start using railcars of chlorine instead of one-ton cylinders.

The hospital five miles from the wastewater facility will now be at risk from a catastrophic release of chlorine. Hospitals, elder care facilities and health care facilities in general pose a challenge in the event an evacuation is required.

HOW TO KNOW HOW FAR THE SPILL WILL GO

CAMEO

The EPA has created a suite of software programs designed to assist LEPCs in making determinations about the distance a chemical spill can harm the public. **Computer-Aided Management of Emergency Operations (CAMEO)** includes a program named **Arial Locations of Hazardous Atmospheres (ALOHA)**, developed by the Environmental Protection Agency and the National Oceanic and Atmospheric Administration (NOAA).

ALOHA is an air-dispersion model used to evaluate hazardous chemical scenarios and determine the likely "footprint" of such spills. ALOHA, helps planners make comparisons, develop optional spill scenarios, and help them visualize what might happen. Many clouds of chemical vapor are colorless. ALOHA is especially helpful in scenarios involving these chemicals.

ALOHA can also model how quickly chemical vapors would likely infiltrate buildings at different distances from the release as well as how quickly the chemical vapors would likely arrive. CAMEO also includes a mapping program (MARPLOT) that allows the user to plot a release on a map.

There are other similar modeling programs available, privately and publicly. LandView has become an essential part of the planning toolkit, which includes MARPLOT as part of its software package.

In Oregon, the CAMEO suite of software has been populated with the information contained in the HSIS. To obtain a copy of the CAMEO software with Oregon specific information, contact the OSFM, Emergency Planning and Response Section.

ALOHA is not used with spills that will cause a cloud or plume that will be longer than six miles or ten kilometers, so the chlorine railcar scenario would be modeled with other software. This software for these larger scenarios was developed by the Environmental Protection Agency for its Clean Air Act 112r Program, commonly called the Risk Management Program. More is provided on this in a later module. It is critical to note the limitations on ALOHA regarding wind speeds, fires, liquids, etc.

RMP*Comp is a free program that was developed by EPA to be used to complete the offsite consequence analyses for RMP facilities. It can be useful to model off-site consequences greater than six miles. To download the program and obtain further information, go to <http://yosemite.epa.gov/oswer/ceppoweb.nsf/content/rmp-comp.htm>

ARCHIE

The acronym stands for **Automated Resource for Chemical Hazard Incident Evaluation**. This program is available from FEMA through the State Emergency Management Offices at no cost to LEPCs. The program does not have a chemical database, so a large amount of informational input is required. Data output is NOT set up for mapping. The printout of tables containing distances of chemical concentrations is very helpful in determining vulnerability zones, which can later be transposed onto maps.

ARCHIE has the capability to determine blast effects for flammable and explosive substances. A more detailed discussion of ARCHIE is found in chapter 12 of the Handbook of Chemical Hazards Analysis Procedures, which is also available from FEMA. It should be noted that this is a DOS program and has NOT YET been upgraded for use In WINDOWS.

LANDVIEW VERSION 5 OR 6

LandView is a Community Right-To-Know software tool in the format of an electronic atlas, with both geographic and tabular information from selected EPA databases and the U.S. Census Bureau. Because LandView 5 contains 10.4 gigabytes of data, it requires two DVDs ([East/West](#)). Individual states (or state groupings) may be ordered. To access LandView ordering information, go to <http://www.census.gov/geo/landview/lv5/lv5.html>

RESPONSE METHODS AND PROCEDURES

LEPC emergency plans must also include the methods and procedures to be followed by facility owners and operators and local emergency and medical personnel to respond to any release of such substances.

[NOTE: The term emergency response personnel include the police, and any others who may be asked to assist with an evacuation, shelter-in-place strategy, or notification of the public, including facility personnel.]

LEPCs often provide questionnaires to facilities with EHS planning requirements that ask the facility owner/operator to detail the methods, equipment, and procedures that will be used to respond to an incident. The questionnaire will also ask about the appropriate training for facility staff.

Local emergency and medical personnel have to make many of their own decisions regarding the response to a specific incident. This must be done with a case-by-case evaluation. An evacuation may be in order, a shelter-in-place strategy, or neither. The release may be confined, or in an area, that has no humans at risk. Medical personnel on-scene may conduct a triage and send the injured to a hospital for further treatment, or they may release the injured after treatment at the scene.

Each chemical may have different or delayed effects. An exposure to nitric acid can cause a reaction 24-48 hours later, for example. There may be more than one chemical exposure involved in an incident, and medical personnel may have to seek additional expertise from the Oregon Poison Control Center, or other professional advice.

The LEPC plan for local emergency and medical personnel to respond to any release of hazardous substances has to cover a very broad range of topics and situations and must include considerations for law enforcement personnel and others involved with the incident.

If there will be any specificity in a regional emergency plan, it should focus on the chemicals stored in the community as reported on HSIS and facility emergency plans. It should include consideration for the chemicals shipped or transported through the jurisdiction.

EMERGENCY COORDINATORS

The LEPC plan must designate a community emergency coordinator as well as facility emergency coordinators, who shall make determinations necessary to implement the plan.

The emergency plan, which includes provisions for opening the Emergency Operations Center, is only implemented for a large-scale incident. Incidents involving the spill or release of chemicals occur often and the potential for harm in most of these incidents is minimal. Someone has to be able to make the decision as to whether there is sufficient threat to implement the LEPC emergency plan.

Usually, implementation of the plan is done through the On-scene Incident Commander who, through the Incident Management System, will determine needs for additional resources that may be required to effectively respond to the incident.

NOTIFICATION

The LEPC emergency plan must include procedures providing reliable, effective and timely notification by the facility emergency coordinator and the community emergency coordinator to persons designated in the emergency plan, and to the public, that a release has occurred.

The *immediate* and *follow-up notifications* required under EPCRA Section 304 are also a consideration. CERCLA Section 103, which deals with un-permitted releases to the environment of hazardous substances, is a consideration here because CERCLA Section 103 is closely linked to EPCRA.

The SARA Title III List of Lists is the reference document for CERCLA 103 and EPCRA 304 notification thresholds (see columns on Reportable Quantities-RQ). There is some overlap, but many of the chemicals listed under CERCLA 103 are not on the EPCRA 304 list. This can cause confusion and noncompliance with the notification requirements. But in essence, if a facility has a reportable quantity release (RQ) of a CERCLA 103 hazardous substance or EPCRA 302 EHS, the notification requirements are the same.

IMMEDIATE NOTIFICATION

If there is a release at a facility, the facility owner/operator is required to notify immediately, (by such means as telephone, radio, or in person) the community emergency coordinator for the LEPC for any area likely to be affected by the release and to the OSAB. The responsible party is responsible for notifying ALL LEPCs that could be impacted by the release. This includes Tribal jurisdictions as well.

For all releases to the environment that are at/above the reportable quantity, the National Response Center (NRC) **MUST** be immediately notified. IMMEDIATE is defined as being within 15 minutes. The NRC number is 1-800-424-8802.

The immediate notification must include each of the following (to the extent known at the time of the notice and so long as no delay in responding to the emergency results ;)

1. The chemical name or identity of any substance involved in the release;
2. An indication of whether the substance is on the EHS list;
3. An estimate of the quantity of any such substance that was released into the environment;
4. The time and duration of the release
5. The medium or media into which the release occurred;
6. Any known or anticipated acute or chronic health risks associated with the emergency and where appropriate, advice regarding medical attention for exposed individuals.
7. Proper precautions to take as a result of the release, including evacuation (unless such information is readily available to the community emergency coordinator pursuant to the emergency plan); and

8. The name and telephone number of the persons to be contacted for further information

FOLLOW-UP NOTIFICATION

As soon as practicable after a release that required the immediate notification, the facility owner or operator must provide a written follow-up emergency notice (or notices, as more information becomes available) setting forth and updating the information required under the immediate notification, and must also include the following additional information;

1. Actions taken to respond to and contain the release;
2. Any known or anticipated acute or chronic health risks associated with the release; and
3. Where appropriate, advice regarding medical attention necessary for exposed individuals

These notification and reporting requirements are not just for fixed or stationary facilities. There is no transportation exemption in this section of law, so a tanker truck of chemicals that leaks or releases to the environment must make these notifications. The difference is that the transportation report can be made through any means available, e.g. local telephone operator.

NOTIFICATION TO THE PUBLIC ABOUT THE AVAILABILITY OF EMERGENCY INFORMATION

Each LEPC must publish annually a notice in local newspapers that the emergency response plan, material safety data sheets, and inventory forms have been submitted under the requirements of EPCRA. The notice must also state that follow-up emergency notices may subsequently be issued.

This published notice shall announce that members of the public who wish to review any such emergency response plan, material safety data sheet, toxic release inventory form, or follow-up notice may do so at the designated location.

METHODS FOR DETERMINING THE OCCURRENCE OF A RELEASE

As noted before, “release” is a specific legal term. As noted in the discussion of EPCRA Section 302, a facility owner/operator with enough of an EHS on-site to trigger planning requirements must develop a method of determining that a release has occurred.

Facility owners and operators are not always aware of this, may not comply with notification requirements even when aware that a release has occurred, or an incident involving a release may occur when facility staff are not present. The facility may not be aware that enough of an EHS or CERCLA 103 chemical has been released to warrant the proper notifications.

So there must be alternate methods of determining the occurrence of a release. Sometimes, the local fire department will learn of a release when a phone call from a facility’s neighbors is received. This could start as a tip regarding strong or strange chemical odors. Or there might be a cloud that hugs the ground, or a colorful plume emanating from a facility that tips the fire department or the police.

LEPCs must think through the responsibility to promulgate an emergency plan and the different ways to determine that a release has occurred. In our changed world since September 11, 2001, we cannot over-emphasize the words “SITUATIONAL AWARENESS.” It’s truly up to each of us to be aware of what is around us and just how important vigilance is in our everyday lives.

AREA OR POPULATION LIKELY TO BE AFFECTED BY A RELEASE

Each stationary facility requiring an emergency plan due to its quantities of Section 302 EHS chemicals, should include an analysis of the area or population likely to be affected by such a release. This data can be requested by the LEPC. But the data from the EHS facility should be reviewed to make certain that the facility is correct in its calculations.

CAMEO and ALOHA software are available to the LEPC as well as any interested party and may be used to assist in planning tasks. Many facilities will have inventories of EHS that even when released or spilled, will not produce off-site consequences.

To create, maintain, and update its regional emergency plan, the LEPC must have a good idea of the population potentially at risk from the accidental release of EHS chemicals within their jurisdiction. Planning for the evacuation or sheltering of 1,000 people is far different from tens, or hundreds of thousands of people.

There is also a group of facilities that must report and plan under EPCRA 302, but also have such large quantities of chemicals that they fall into the Risk Management Program as dictated and regulated by Clean Air Act Section 112r. This will be discussed in more detail in a later section, but should be an important consideration for LEPCs as the off-site consequence of a release may be miles away from the facility.

The EPA model of the off-site consequence of a catastrophic release of chlorine from a railcar can be 14 miles. This also is a consideration for the LEPC as it examines the transportation routes for extremely hazardous substances. It won’t be enough to plan for an incident from the stationary facility that would receive the rail car shipment of chlorine. The planning for a disaster must also be for the entire transportation route. In the example of the railcar of chlorine, an LEPC must plan for a 14-mile length on either side of the chlorine railcar route.

LEPCs can use MARPLOT, another component of the CAMEO suite of software, to determine the area of off-site consequence. Additionally, LandView is another software tool to assist in local planning.

The RMP facility owner/operator is required to coordinate with the LEPC and to ensure that the LEPC has sufficient information for its planning district plan. EPA remains the authority for the RMP program and there are significant cautions in handling RMP information at the local level. LEPCs are cautioned to be sure that they determine liability for the mishandling of RMP information.

The EPA created special software for the Clean Air Act 112r program to assist facilities in the Risk Management Program with making these same determinations, and these software programs are available to LEPCs. Refer to the following link:

<http://yosemite.epa.gov/oswer/ceppoweb.nsf/content/ds-epds.htm>

EVACUATION

The LEPC regional emergency plan must include training programs, including schedules for training of local emergency response and medical personnel. This should include responders from law enforcement, public works, public health and anyone that could be “first-on-scene” at a chemical incident.

DETERMINING IF EMERGENCY RESPONDERS HAVE THE PROPER RESOURCES

LEPCs are also tasked with evaluating the need for resources necessary to develop, implement, and exercise the regional emergency plan, and must make recommendations with respect to additional resources that may be required and the means for providing such additional resources.

It isn't enough to develop an emergency plan, the LEPC must evaluate whether the resources are available locally to actually respond to a chemical emergency.

In the example of the wastewater treatment facility, it wouldn't be sufficient to change the emergency plan to language that has an evacuation and shelter-in-place notification for the 14-mile area of off-site consequence. The LEPC would have to make a determination that responders had the manpower and equipment, as well as training, to handle such an incident.

Responding to an incident from a catastrophic release from a one-ton cylinder of chlorine, with an impact 1.3 miles downwind is very different from responding to an incident from a catastrophic release from a railcar of chlorine, with an impact 14 miles downwind.

In this example, once the LEPC determines that the resources are available for such a response, then it would exercise the emergency plan.

Of course, staging a full-scale drill would be very expensive and resource intensive. The tabletop drills are a far less costly alternative and can help in thinking out the specifics and particulars of responding to such an incident.

Again, using this example, if the LEPC determines that there are not sufficient resources to prepare and respond to an incident involving the railcar of chlorine, the LEPC must make recommendations with respect to additional resources that may be required and the means for providing such additional resources. In other words, shortfalls in equipment, staffing, training, notification systems, and many more resource questions may surface.

Finding the additional resources may involve acquiring more equipment from facilities with large amounts of EHS chemicals that must develop facility emergency plans under EPCRA Section 302.

Finding the additional resources might involve a political decision, such as having the wastewater facility purchase the additional equipment needed. Use of Department of Homeland Security Grants to meet local/regional needs based on LEPC hazards analysis and risk analysis is certainly within the purview of the Right to Know Planning mandates.

EMERGENCY EQUIPMENT AND FACILITIES

The LEPC regional emergency plan must include an updated description of emergency equipment and facilities in the community and at each facility in the community subject to the requirements of this subchapter, and an identification of the persons responsible for such equipment and facilities. This includes emergency equipment and government operated facilities as well as the emergency equipment at facilities with EHS chemicals.

In the event of a large-scale incident, for example, Self-Contained Breathing Apparatus (SCBA) at both government-operated facilities and at private facilities might be needed for an evacuation and response. Responders must know at the time of the incident how to obtain these resources and who they must contact to get them.

TRAINING PROGRAMS FOR RESPONDERS AND MEDICAL PERSONNEL

The LEPC regional emergency plan must include training programs, including schedules for training of local emergency response and medical personnel. This should also include responders from law enforcement, public works, public health and anyone that could be “first-on-scene” at a chemical incident.

METHODS AND SCHEDULES FOR EXERCISING THE EMERGENCY PLAN

The LEPC regional emergency plan must include methods and schedules for exercising the emergency plan. Realistic scenarios should be practiced, expecting to identify problems or areas of improvement. Identifying such areas documents the need for additional planning and training and will often assist in justifying and obtaining needed resources.

REVIEWING AND TESTING THE LEPC REGIONAL PLAN

The LEPC Plan must be reviewed at least once a year. Most planners agree that the best way to review a plan is to test, or exercise, it. There is no requirement that the plan must be tested each year however, the LEPC is required to establish a schedule for testing the plan. Obviously, the level of review and testing is dependent on many factors, including cost, personnel required, and other reasons.

Each LEPC should determine the level of review and exercise to be conducted each year. In testing the Plan, the following areas should be evaluated to represent the minimum requirements for qualification such as an exercise.

In addition, jurisdictions are encouraged to test areas particular to their part of the plan. An exercise of the plan is required no less than once every two years.

EXAMINE THE PLAN FOR THE FOLLOWING ITEMS

1. Does the Plan attempt to reduce the unknowns in a situation?
2. Are the aims of the Plan to evoke appropriate actions?
3. Is the Plan based on what is likely to happen?
4. Are the basic tenets of the Plan based on knowledge of actual problems and solutions or upon myths and misconceptions?
5. Does the Plan operate as a continuous process?
6. Does the Plan focus on principles rather than concrete details?
7. Does the Plan overcome resistance in thinking and established methods of response because of limitations of money, time and effort?
8. What parts of the Plan are educational activities?

HOW LEPCs GATHER THE NEEDED INFORMATION

LEPCs rely on reporting facilities for the information needed for the Section 303 plan. EPCRA gives LEPCs the power to request reporting facilities to provide relevant information. There is strong language in EPCRA protecting industry trade secrets, as well as language to prevent a facility from trying to avoid its EPCRA reporting obligations with baseless claims of trade secrecy.

LEPCs should gather the information needed from the HSIS where information is gathered in one database and where customized reports can be developed, to fit the specific needs of the LEPC. LEPCs can also utilize questionnaires for EHS facility planning purposes.

[42 USCA 11003(d)(3) Upon request from the emergency planning committee, the owner or operator of the facility shall promptly provide information to such committee necessary for developing and implementing the emergency plan.]

HAZARD ANALYSIS

As you will notice while reading the criteria for developing a hazardous materials response annex, some of your key tasks will be to identify facilities containing extremely hazardous substances, or to identify transportation routes likely to be used for the transportation of these substances. A hazard analysis will help you identify these and other hazards in your community. The hazard analysis process can assist local planners in answering these and other important planning questions:

- ✓ What are the major chemical hazards in the community?
- ✓ What kind of training do local responders need?
- ✓ How can we pre-determine the area or population likely to be affected by a release?
- ✓ What emergency response resources (personnel and equipment) does the community need?
- ✓ How can we help prevent chemical accidents?

REVIEW AND ASSISTANCE IN LEPC EMERGENCY PLANNING

After the LEPC completes or updates its emergency plan, the LEPC submits a copy of the plan to the Oregon SERC Advisory Board (OSAB). The OSAB reviews the LEPC emergency plan and may make recommendations on revisions of the plan that may be necessary to ensure coordination of such plans with emergency response plans of other LEPCs bordering and/or near their planning district.

REGIONAL RESPONSE TEAM GUIDANCE DOCUMENTS, REVIEW AND COMMENT

The National Response Team publishes guidance documents for preparation and implementation of emergency plans. The Region X, Regional Response Team (RRT) may review and comment upon an LEPC emergency plan, or other issues related to preparation, implementation, or exercise of such a plan if assistance is requested by the LEPC. The OSAB will normally coordinate such a request with the RRT after discussions with LEPCs interested in having their plans reviewed by the RRT.