Preparedness and Prevention

[Colorado Hazardous Waste Regulations 6 CCR 1007-3 Sections 262.34(a)(4), 265.30-265.35, and 265.37]

Large quantity generators of hazardous waste (LQG) are required to plan and prepare for an emergency, such as a fire, explosion, or unplanned release of hazardous waste, before one occurs at their facility. Planning and preparation will help minimize the severity of emergency incidents at your facility and allow for the immediate use of emergency response and control equipment. It will also help ensure suitable aisle space is available for emergency personnel and equipment to navigate the facility, and assist in familiarizing local emergency responders with the facility and the types of hazardous waste handled there.

Maintenance and Operation of Facility

Facilities should be designed, constructed, maintained, and operated in a manner that minimizes the possibility for emergency incidents (fire, explosion, or any release of hazardous waste) through the use of fire protection systems, standard operating procedures, effective maintenance schedules and programs, and comprehensive emergency response procedures. In addition to these elements, incidents and any impacts can be further minimized through compliance with the regulatory requirements related to the management of hazardous waste itself. Some additional prevention and preparedness elements include:

- Locating hazardous waste containers and tanks away from high-traffic areas and uncontrolled floor drains (best management practice).
- Providing secondary containment in hazardous waste container storage/accumulation areas through the use of chemical-resistant coatings or secondary-containment pallets (best management practice and regulatory requirement for accumulation in tanks).
- Ensuring compatibility of waste with containers and tanks (regulatory requirement).
- Keeping incompatible wastes separated (regulatory requirement).
- Keeping containers closed and labeled for easy identification (regulatory requirement).
- Repairing cracked or damaged floors in hazardous waste storage areas (best management practice).
- Use of facility layout maps and drawings for quick reference in an emergency (contingency plan regulatory requirement requiring detailed facility layout and surrounding environment information). These maps and drawings should contain information that could be crucial to an emergency response (e.g., discharge points, emergency shut-off valves and location of response equipment).

Facilities Without Fire Protection Services

If your facility is not provided with fire protection services by a fire protection district or municipal fire department, you must maintain and operate your facility in accordance with a fire protection and prevention plan that you have developed for your facility. Your fire protection plan needs to be approved by the Colorado Department of Public Health and Environment,
Hazardous Materials and Waste Management Division. Before submitting the plan to the Department for approval, it must be reviewed and approved by a professional engineer registered in Colorado that is experienced in fire protection. Once the plan is approved, it will become a part of the facility’s contingency plan. Your fire protection plan needs to:

- Provide for adequate fire protection and prevention at your facility based on the location and construction of the facility, and based on the types and amounts of hazardous waste managed at your facility.
- Specify what equipment is required as well as the availability and training of your staff.

For additional guidance on the specific requirements for this plan, call the Hazardous Waste Compliance and Enforcement Unit at (303) 692-3361.

**Required Emergency Equipment**

Equipment required for emergency response must be provided by your facility, unless none of the hazards posed by the facility would require a particular type of equipment.

**Internal and External Emergency Communication**

An easily accessible internal communications system capable of providing immediate emergency instruction to facility personnel is required for your facility. The type of internal communication system may vary depending on your facility’s size and function. For small shops, the human voice may be sufficient to alert personnel. For larger shops, or for facilities with multiple work areas, an intercom or loud speaker system, fire pull stations, or other types of alarm or communication systems may be necessary.

For external emergency communication, a telephone, hand-held two-way radio or other intrinsically-safe communications device must be available to contact outside emergency personnel such as the police, fire department, or local emergency response teams. Intrinsically-safe means that the device does not contain any components that produce sparks or hold enough energy to produce a spark or heat sufficient to cause ignition in an explosive atmosphere.

Whenever hazardous waste is being handled at your facility, all personnel involved must have immediate access to an alarm or emergency communication device, or be able to notify another employee through visual or voice contact. If there is only one employee onsite while the facility is operating, they must have access to a device capable of summoning external emergency help. Alarms and communication devices are also needed in locations that can be rapidly and easily accessed in an emergency situation by the personnel handling the hazardous waste.

**Fire Protection, Spill Control and Decontamination Equipment**

You must have fire control equipment, spill control equipment, and decontamination equipment appropriate for the needs of your facility. For fires that can be extinguished with water, sufficient water must be available for emergency use. Water needs to be available at adequate volume and pressure for sprinklers (if installed), hydrants, and fire hoses.

For fires that cannot be extinguished with water, special extinguishing equipment may be required. Special extinguishing equipment may include foam, dry chemical, carbon dioxide,
metal/sand, wet chemical, or vaporizing liquid. The type of fire must be known before attempting to extinguish the fire so that the correct fire extinguishing equipment is used. Not using the correct type of extinguisher can spread the fire.

**Testing and Maintenance of Equipment**

All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment must be tested and maintained as necessary to assure its proper operation in time of emergency. The frequency of testing and maintenance will vary depending on the specific equipment, its role in an emergency situation, the reliability of the individual pieces of equipment, and any manufacturer-recommended maintenance/testing schedules. It would be a best management practice to document such testing and maintenance activities to prove compliance with this requirement.

**Required Aisle Space**

Adequate aisle space must be maintained to allow unobstructed movement of emergency response personnel and equipment. The hazardous waste regulations do not specify the width of aisle space. This is a performance-based standard which is dependent on the type of containers, tanks, waste, and waste management practices at your facility. From a practical standpoint, aisle width should be wide enough for equipment used to move containers of hazardous waste in response to an emergency and for the inspection of tanks and containers. The Occupational Health and Safety Administration (OSHA) and many fire departments require a minimum aisle space of 28 inches.

Examples of aisle space violations would be hazardous waste containers that are arranged more than two deep against a wall or configured so that access to the containers is blocked by equipment or debris. Your facility would be cited for non-compliance with the hazardous waste regulations if you are unable to remove a hazardous waste container with a dolly without moving other equipment, containers, or vehicles out of the way.

**Arrangements with Local Authorities**

You must attempt to make arrangements with local authorities such as police, fire, local health departments, emergency response teams, and local hospitals to familiarize the local authorities with your facility layout, waste handling activities, and the types of injuries or illness that could result from fires, explosions, or releases at your facility. You may want local responders to tour your site and review the chemicals used and wastes generated onsite. If more than one police or fire department might respond to an emergency at your facility, you should develop an agreement with these agencies designating the primary emergency authority and include this designation in your contingency plan.

Risks associated with your site need to be communicated to the response agencies. Authorities should be informed of the properties of the hazardous wastes handled at your facility, the hazards associated with the waste, the layout of your facility and where personnel would be working, entrances to roads inside the facility, and evacuation routes. You need to ensure that your facility will get an immediate and appropriate emergency response from local authorities.

The arrangements agreed to by the local police department, fire department, hospitals, contractors and any State and local emergency response teams will need to be documented in your facility’s contingency plan. If state or local authorities decline to enter into an arrangement,
you should document this refusal in your operating record and prepare a fire protection and prevention plan. A sample “Arrangements with Response Authorities” document is provided.

The Contingency Plan

[Colorado Hazardous Waste Regulations 6 CCR 1007-3 Section 262.34(a)(4), Sections 265.50-265.54]

A contingency plan is a written document describing actions facility personnel will take, what emergency response equipment is available, what procedures will be followed, and arrangements made with local emergency response authorities in order to minimize hazards to human health or to the environment in the event of an accident involving hazardous waste.

Large quantity generators can use the “Large Quantity Generator Guidance – Contingency Plan Template” [www.colorado.gov/cs/Satellite/CDPHE-HM/CBON/1251615961098] to assist with developing your facility’s contingency plan and determining if your plan has the required elements.

Purpose and Implementation of Contingency Plan

The contingency plan for your facility must be designed to minimize hazards to human health or the environment from fire, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil or surface water (including storm sewers). The contingency plan must be specific to your facility and demonstrate that facility-specific emergency procedures have been developed and will be implemented immediately whenever an emergency hazardous waste situation occurs at your facility.

Content of the Contingency Plan

Requirements

Your contingency plan must describe the actions that facility personnel will take to comply with and implement the plan, including a description of the facility-specific procedures. If you have already prepared a Spill Prevention, Control and Countermeasures (SPCC) Plan in accordance with US EPA requirements or other emergency or contingency plans for your facility, amendments to that plan may fulfill the contingency plan requirements for a large quantity generator, provided all of the requirements of Part 265, Subpart D are met. Your contingency plan should be reviewed at least annually or when there is a significant change to the plan, such as a new primary or alternate emergency coordinator, addition of new emergency equipment, or a new satellite accumulation or 90-day container and/or tank hazardous waste storage area. Review of the contingency plan and contingency plan implementation needs to be included in both initial and annual facility personnel training.

Coordinated Emergency Services Strategy

The fire protection district responsible for providing services at the facility and Local Emergency Planning Committee (LEPC) should be identified in the contingency plan. A coordinated emergency services strategy must be arranged and agreed to by local police departments, fire departments, hospitals, contractors and State and local emergency response teams. Written agreements should be obtained whenever possible and included in the contingency plan documentation. Since the contingency plan is written for use by your facility personnel, detailed instructions should be included in the contingency plan of how coordinated emergency services are obtained, what will be provided, and how they will be managed. The contingency plan
<table>
<thead>
<tr>
<th>Location</th>
<th>Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building</td>
<td>Communications: Telephone in office capable of internal and external contacts. Chemical fire extinguisher capable of extinguishing hazardous waste fire. Spill cleanup materials: Shovel, gloves, absorbent, dust pan, respirators capable of cleaning up liquid materials.</td>
</tr>
</tbody>
</table>

V. ARRANGEMENTS WITH RESPONSE AUTHORITIES

has entered into the following agreements in the event that outside services are required in response to a spill, release, fire, or explosion involving hazardous waste.

A. **Cripple Creek Fire Department:** met with the Cripple Creek Fire Department on September 9, 1999 to discuss the possibility that outside assistance may be necessary in the event of a fire at . A copy of the Fire Protection Plan was given to the Cripple Creek Fire Department. The Fire Department has agreed to respond if their assistance is requested. Also has provided the Fire Department with a copy of the HWCP that identifies the locations of all hazardous waste accumulation and accumulation areas on the site. The Cripple Creek Fire Department is trained and capable of responding to a “Level C” hazardous waste incident.

B. **Hospital:** will advise Centura Health-Penrose Hospital in Colorado Springs and Memorial Hospital in Colorado Springs of its intention to send any personnel needing medical attention due to a hazardous waste spill, release, fire, or explosion to the hospitals prior to sending personnel to those facilities for treatment. Will at that time identify to those facilities the type of hazardous waste and the exposure scenario that occurred.

met with the Centura Health-Penrose Hospital in Colorado Springs and Memorial Hospital in Colorado Springs on December 8, 2000 to discuss Waste Management, Hazardous Waste Contingency and Waste Minimization Plans. Copies of these plans were given to the both these facilities.
should be specific regarding what to do, who to notify, and in the case of off-site assistance, what groups will and will not do during the emergency. When there is a possibility that more than one emergency responder agency might respond to an emergency (e.g., response by more than one police or fire department), agreements should be made designating the primary emergency authority.

If your facility is not within an established fire protection district that provides fire protection services, then your facility must provide fire protection services and a copy of the Department-approved fire protection and prevention plan must be included in the contingency plan. Please refer to the Preparedness and Prevention section of this document for additional information on this topic and information on arrangements with local authorities.

Below is an example of what a facility may include for this section of their contingency plan:

*This section of XYZ’s Contingency Plan identifies available off-site Emergency Services. Written agreements with these off-site groups are included at the end of this section. These services are to be requested by one of the Emergency Coordinators or designees.*

- Call the Middleton Fire Department, Telephone Number 555-5555.
- Notify the XYZ Facility Fire Coordinator via mobile radio to meet fire equipment at the West Gate.
- XYZ Facility Fire Coordinator will send the ranking responding fire department officer to the Emergency Control Center.
- XYZ Facility Fire Coordinator will stay with fire equipment.
- The ranking responding fire department officer will direct equipment from Control Center until replaced by the Middleton Fire Chief upon his arrival
- Etc.

**List of Emergency Coordinator(s) and Contact Information**

Your contingency plan must include an up to date list of names, home addresses and phone numbers (office and home; if available, cell and pager numbers should also be included) of all persons qualified to act as emergency coordinator in the order which they will assume responsibility. The primary emergency coordinator should be listed first, followed by the alternate emergency coordinators in the order they will assume responsibility as alternates. The hazardous waste regulations require only that the list of emergency coordinators be included in the contingency plan. However, for easy access during an emergency, the Hazardous Materials and Waste Management Division recommends posting the list of emergency coordinators and their contact information along with phone numbers of local police and fire departments next to telephones at your facility where hazardous waste is handled or stored and at any other telephones that may be used to call for assistance during an emergency. The following information posted next to the telephone(s) will assist the facility in an emergency:

- The name and telephone number of the emergency coordinator and alternate emergency coordinator(s).
- The location of fire extinguishers, spill control material, and, if present, the location of the fire alarm or other response equipment.
- The telephone number of the fire department and other emergency response agencies.

An example emergency contact information form is included at the end of this document.
List and Location of Emergency Equipment
An up to date list of all emergency response equipment at your facility that is applicable to facility emergency operations must be included in the contingency plan. This includes equipment such as fire extinguishing and fire control equipment and systems, spill control equipment, decontamination equipment, and internal/external communications and alarm systems. A physical description of each item on the list, its location and a brief outline of its capabilities and limitations must also be included. Since this list will be used by facility personnel during an emergency, the format chosen should present this information in the easiest possible manner. This information should be included in both the initial training and annual refresher training.

Evacuation Plan
An evacuation plan must be developed for the safe egress of facility personnel where there is a possibility that evacuation could be necessary. Recognizable signals to begin an evacuation, primary and secondary evacuation routes (in case primary exit routes are blocked by releases of hazardous waste or fires), and safe assembly areas to account for all evacuated personnel should be noted in the plan. All facility personnel should have familiarity with the evacuation plan and the need for multi-lingual evacuation training should also be evaluated. Emergency evacuation routes may be posted where it is appropriate. For example, your facility can post at various site locations a facility diagram that is color coded, uses arrows, and indicates the individual’s current location in the building to show primary and alternative evacuation routes and locations where personnel should assemble.

Location of 90-day and Satellite Accumulation Areas
The location of all (permanent and temporary) 90-day container and/or tank storage areas and satellite accumulation areas must be designated in the contingency plan. This is one of the areas where the Colorado Hazardous Waste Regulations are more stringent than the Federal Regulations. It is recommended that this be done on a facility map, but a list of these areas would also be acceptable (e.g., Building 10, Room 19 – 90-day storage area; Room 32A – 3 satellite accumulation areas; Room 11 – 1 satellite accumulation area). Whichever method is used for identification of these areas must provide sufficient information for emergency responders to adequately respond to an emergency situation.

Temporary accumulation areas (both 90-day and satellite) also need to be designated in the contingency plan. A description of the temporary accumulation areas need only be kept updated for the personnel or organization responsible for implementation of the contingency plan, and provided to those facility locations affected by the temporary accumulation areas. The generator may choose to keep two 90-day storage area and satellite accumulation area facility maps or lists; one facility map or list to designate permanent areas and one facility map or list to designate temporary areas. Using this method of documentation allows the generator to change the location of temporary areas as needed without revising an entire facility map or list.

Copies of the Contingency Plan
A copy of your facility’s contingency plan and any revisions to the plan must be maintained at your facility. Copies of the contingency plan and all revisions need to be submitted to those agencies that are expected to respond to an emergency situation, including the local police department, fire department, hospitals, Local Emergency Planning Committee (LEPC) and State and local emergency response teams that may be called upon to provide emergency services.
Your facility may also want to contact the Colorado State Patrol and US EPA Region 8 concerning their requirements for receiving copies of your facility contingency plan.

It is suggested that your facility number the individual copies of the contingency plan and maintain a distribution log identifying each copy, where each copy is located and what agencies received a copy. This will help your facility with keeping track of contingency plan copies and locating these copies when it is time for the contingency plan to be updated.

Amendment of the Contingency Plan

The contingency plan should be reviewed at least annually and updated whenever changes occur that will significantly affect the ability of your facility to respond to an emergency situation. This includes when the regulations are revised, if your facility’s contingency plan fails in an emergency, if your facility changes in a way that materially increases the potential for an emergency or there are changes in the response necessary in an emergency, if the list of emergency coordinators changes or if the list of emergency equipment changes. These revisions should be made to the plan immediately (within 24 hours).

It is recommended that a revision record be kept that includes amendment dates, revision numbers and a brief summary of the nature of the revision(s). It is also acceptable to make contingency plan changes in supporting documentation as long as this documentation is referenced in the original plan.

Amendment is not necessary for the designation of temporary accumulation areas not previously identified in the contingency plan, provided the distribution of descriptions of these areas is provided to and maintained by personnel or organization responsible for implementation of the contingency plan, and provided to those facility locations affected by the temporary accumulation areas.

Emergency Coordinator and Emergency Response Procedures

[Colorado Hazardous Waste Regulations 6 CCR 1007-3 Section 265.55 and 265.56]

Emergency response procedures are critical to ensuring that the proper actions are taken to minimize hazards to human health and the environment from fires, explosions, spills, or other accidents. A large quantity generator of hazardous waste must designate at least one individual to coordinate emergency response activities and respond to emergency situations. The emergency coordinator must be familiar with the facility’s contingency plan emergency response procedures so this plan can be activated during an emergency.

The Emergency Coordinator

One or more qualified employees must be onsite or on call (i.e., able to respond to an emergency by reaching the facility within a short period of time) at all times to coordinate emergency response activities in case of a fire, explosion, spill, or any other incident. An alternative employee(s) should also be selected to act as emergency coordinator(s) if for some reason the designated emergency coordinator is unavailable (due to vacation, illness, etc.). If the designated emergency coordinator is not available and there is not another person responsible for fulfilling these duties, your facility could be cited for non-compliance with the hazardous waste emergency coordinator requirements. You may also be placing your employees at risk in the event of an emergency.
The designated emergency coordinator and alternate emergency coordinator(s) should have specialized emergency response training and experience with your facility. Specialized emergency coordinator training elements should include instruction on facility contingency plan implementation, emergency response procedures (e.g., site shutdown procedures and fire, explosion and possible ground-water contamination response), proper use and maintenance of emergency equipment and communication systems, and ensuring that evacuation routes in the facility are properly marked and used during an emergency.

The emergency coordinator is responsible for coordinating all emergency response measures and must be thoroughly familiar with:

- The facility’s contingency plan.
- The operations and activities at the facility.
- The location and biological, physical and chemical properties of waste handled.
- The location of all records necessary to assist and implement the facility’s contingency plan.
- The physical layout of the facility.

In addition to the above, your facility’s emergency coordinator should have access to the facility, the authority to expend funds for resources necessary to carry out the contingency plan and to direct employees to assist in the implementation of the facility’s contingency plan.

**Emergency Procedures**

The responsibilities for implementing the emergency procedures are divided between the emergency coordinator and the owner or operator of the facility.

**Emergency Coordinator Responsibilities**

The emergency procedures implemented by the emergency coordinator when a fire, explosion or hazardous waste release occurs are:

- Activate internal facility alarms or communication systems and notify appropriate State or local emergency response agencies.
- Identify the character, exact source, amount and areal extent of released material(s).
- Assess possible direct and indirect hazards to human health and the environment that may result from the release, fire or explosion.
- Determine if the release could threaten human health or the environment outside the facility and if evacuation of local areas outside of the facility is required; if so, immediately notify the appropriate local authorities and either the government official designated as on-scene coordinator or the National Response Center (1-800-424-8802). Other reporting requirements may also apply depending on the type, quantity, and location of material spilled. Spill reporting information is provided in the “Reporting Environmental Releases in Colorado” guidance document [www.colorado.gov/cs/Satellite/CDPHE-HM/CBON/1251615961696](http://www.colorado.gov/cs/Satellite/CDPHE-HM/CBON/1251615961696].
- Ensure that fires, explosions and releases do not occur, recur or spread to other hazardous waste at the facility.
- Monitor for leaks, pressure buildup, gas generation or ruptures in valves, pipes or other equipment if facility operations cease.
• Provide treatment, storage or disposal of any material that results from a release, fire or explosion immediately after an emergency.
• Ensure that no waste incompatible with the released material is processed until the cleanup procedures are completed and all emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

An example emergency coordinator checklist is available in the compliance aids section at www.colorado.gov/cs/Satellite/CDPHE-HM/CMON/1251615961696.

Owner/Operator Responsibilities
The emergency procedures implemented by the owner or operator of the facility when a fire, explosion or hazardous waste release occurs are:

• Notify the Department and appropriate local authorities that the facility is in compliance with the above emergency procedures before operations are resumed in the affected area(s) of the facility;
• Record the time, date, and details of any incident that requires implementing the contingency plan and submit a written report to the Department within 15 days of the incident. Refer to the Colorado Hazardous Waste Regulations (Section 265.56 (j)) for the requirements of this report.

**********
For more information please contact:

Colorado Department of Public Health and Environment
Hazardous Materials and Waste Management Division
4300 Cherry Creek Drive South
Denver, Colorado  80246-1530

Customer Technical Assistance Line:
(303) 692-3320
(888) 569-1831 ext. 3320 toll-free
E-mail: comments.hmwmd@state.co.us

Division website: www.colorado.gov/cdphe/hm

*******
This is designed to provide guidance on the appropriate management of wastes based on Colorado solid and hazardous waste statutes and regulations only. Other statutes and regulations may also apply.
**EMERGENCY COORDINATORS LIST AND TELEPHONE POSTING**  
(Supersedes all previously-dated lists)

Date: _____________

**NOTE:** CONTACT IN ORDER LISTED

---

### Telephones

<table>
<thead>
<tr>
<th>Name &amp; Home Address</th>
<th>work</th>
<th>home</th>
<th>cell</th>
<th>pager</th>
<th>Availability on-site</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRIMARY:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ALTERNATES:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

FIRE DEPARTMENT: ________________  
COLORADO 24-HOUR INCIDENT REPORTING LINE: 1-877-518-5608

POLICE DEPARTMENT: ________________  
NATIONAL RESPONSE CENTER: 1-800-424-8802

HOSPITAL: ________________

LOCATION OF EMERGENCY RESPONSE EQUIPMENT:

- Fire Extinguishers: ________________
- Fire Alarm (if present): ________________
- Spill Control Equipment: ________________
- Special Equipment (if present): ________________