



# CHEMICAL EMERGENCY PREVENTION & PLANNING

Newsletter



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US EPA Region 10

## Inside This Issue

- Equipment Hazards
- Emergency Response
- CAMEO Updates
- OSHA's new Hazard Communication Standard
- RMP Training in 2012

### CHEMICAL EMERGENCY PREVENTION & PLANNING Newsletter

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# REPORT



**CHEMICAL or OIL SPILLS**  
to the NATIONAL RESPONSE CENTER

**1-800-424-8802**

### Editor's Note:

#### Equipment Hazard Awareness – and the importance of Process Hazard Analysis (PHA) or Hazard Review

The following articles from the [CCPS Beacon](#) show examples of equipment hazards and the relevant safety issues. Your facility should be doing similar hazard analysis as required by the Risk Management Program.

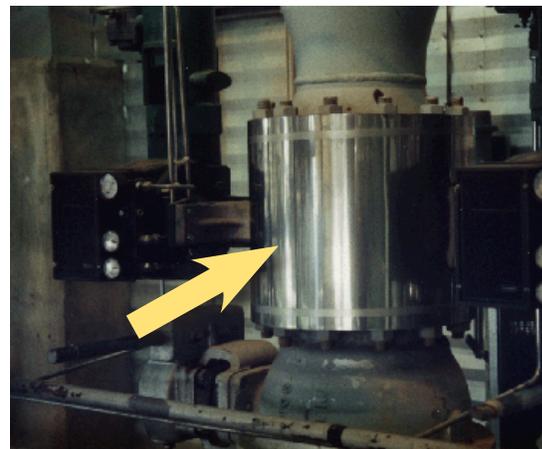
The hazard review (Program 2) or PHA (Program 3) will help you determine whether you are meeting applicable codes and standards; identify, evaluate and address the types of potential failures; and focus your emergency response planning efforts. This analysis is key to understanding how to operate safely on a continuous basis. You must identify and review specific hazards and safeguards for your processes. Read on for more information on the Program 2 [Hazard Review](#) or the Program 3 [PHA Process](#).

## Fire Protection - Long Bolt Flangeless Valves (Source CCPS)

Would you recognize the metal cover (yellow arrow) in Picture 1 as an important piece of safety equipment? If it was damaged or missing, would you know to report it so that it could be repaired or replaced?

The metal cover wraps something called a “long bolt flangeless valve” (also called long bolt, sandwich, flangeless, or wafer valves). Some examples, with the covers removed, are circled in red in Pictures 2 and 3. These valves have no integral flanges for bolting to pipe or vessel flanges, and have exposed bolts longer than 3 inches (about 7 cm.). If there is a fire in the area, the long bolts may be contacted directly by flames (impingement). The heat causes the bolts to expand and lengthen, allowing the gaskets on the two sides of the valve to leak. If the leaking material is flammable or combustible, it will add fuel to the fire (Picture 4). If the pipe is under pressure, a large, spraying fire that results in more damage can occur.

The metal cover wraps the long bolts with a fire resistant material and encloses the entire assembly with a stainless steel covering to protect it from flame and heat impingement. It is an important safety device. It must be properly re-installed if



Picture 1

*continued on page 2*

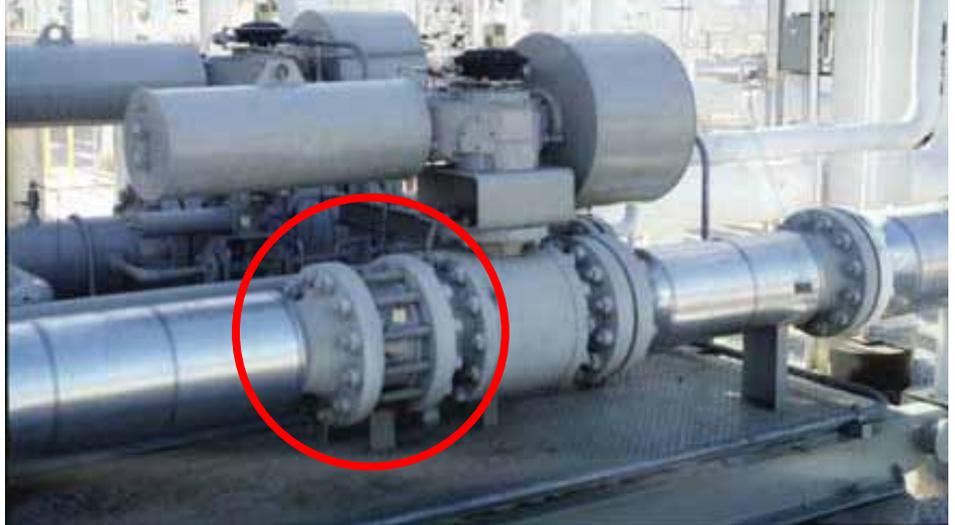
*Fire Protection - Long Bolt  
Flangeless Valves  
continued from page 1*

removed for maintenance. It must also be inspected periodically to be sure it is in good condition, and any damage must be reported so it can be repaired.

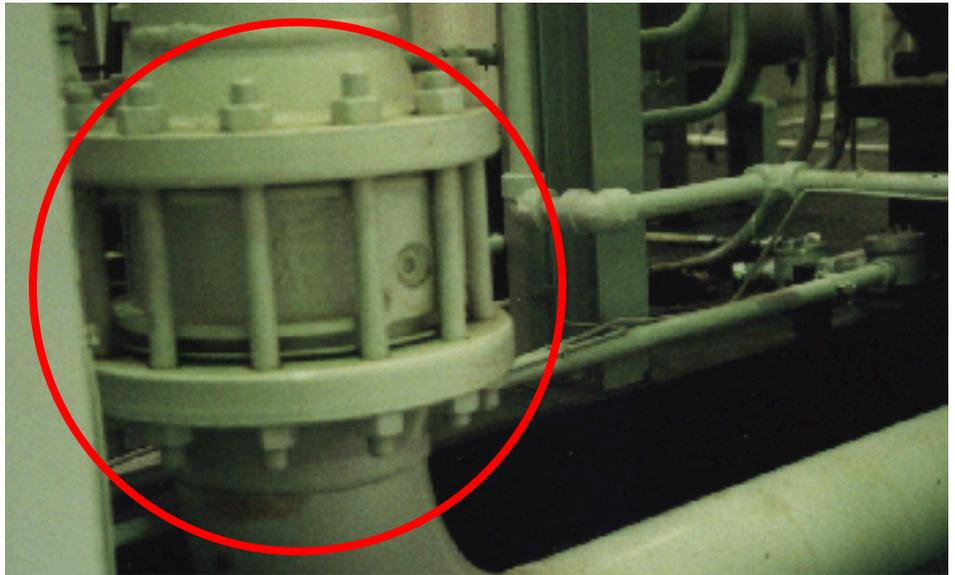
**What can you do?**

- If you have long bolt flangeless valves on piping in combustible, flammable or LPG service, make sure the covers are properly maintained at all times.
- A cover on a long bolt flangeless valve can hide corrosion or other damage. The covers should be removed periodically to inspect the flanges and valves under the cover, and immediately replaced following the inspection.
- Passive fire protection on such a valve will only be rated for a short duration fire, and an inherently safer engineered solution would be to replace the flangeless valve with a fully flanged valve.

Picture 2



Picture 3



Picture 4

*Note larger fire at the long bolt  
flange joint (top) as compared  
to bolted flange fires at bottom*



## Make sure flanges are properly bolted! (Source: CCPS)

The pictures show improperly bolted flanges that a plant found during safety inspections. In the top two pictures, some or all of the bolts are too short, and the nuts are not completely on the bolts. This means that the joint may not be as strong as it should be. Flanges are designed so that the entire nut-bolt combination holds the forces on the flange. If the nut is only partially screwed onto the bolt, the connection may not be strong enough.

In the bottom picture, two of the four bolts are missing. This flange will only be about half as strong as the piping designer intended!

### What can you do?

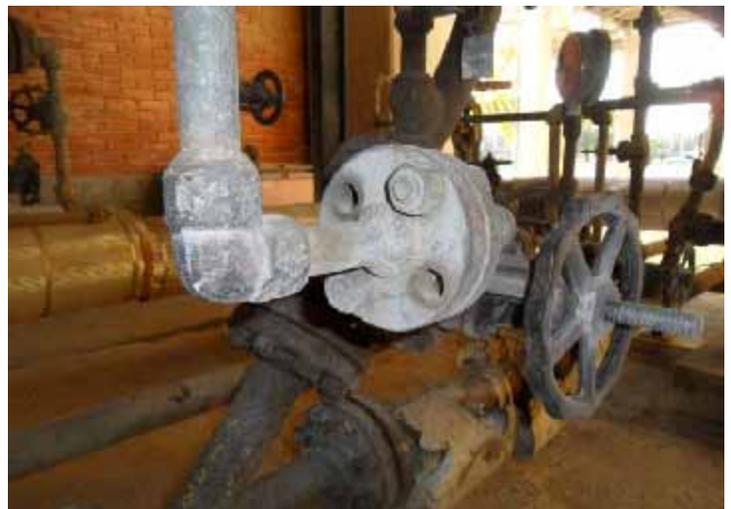
If your job includes putting equipment together, assembling flanged pipe, bolting manhole covers or other bolted connections on equipment, or other equipment assembly, remember that the job is not complete until all of the bolts are properly installed and tightened.

- Some equipment requires special bolt tightening procedures. For example, you may have to use a torque wrench to correctly tighten the bolts to the specification, or tighten the bolts in a special order. Make sure that you follow the correct procedure, use the correct tools, and that you are properly trained in the equipment assembly procedure.
- Check pipes and equipment for properly bolted flanges as part of your plant safety inspections. As simple guidance, bolts that do not extend beyond the nuts should be reviewed by a plant piping craftsman or engineer.
- If you observe improperly bolted flanges in your plant, report them so they can be repaired, and make sure the required repairs are completed.
- Inspect new equipment, or equipment which has been re-assembled after maintenance, to make sure it is correctly assembled and properly bolted before starting up.



*Bolts are too short...*

*Or they aren't there at all.*



## Emergency Response Program

The EPA Risk Management Program (RMP) may require the facility that has a Program 2 or Program 3 process (see box for details), to implement an emergency response program, consisting of an emergency response plan, emergency response equipment procedures, employee training, and procedures to ensure the program is up-to-date. This requirement applies if your employees will respond to some releases involving regulated substances.

EPA recognizes that, in some cases (particularly for retailers and other small operations with few employees), it may not be appropriate for employees to conduct response operations for releases of regulated substances. For example, it would be inappropriate, and probably unsafe, for an ammonia retailer with only one full-time employee to expect that a tank fire could be handled without the help of the local fire department or other emergency responder. EPA does not intend to force such facilities to develop emergency response capabilities. At the same time, you are responsible for ensuring effective emergency response to any releases at your facility. If your local public responders are not capable of providing such response, you must take steps to ensure that effective response is available (e.g., by hiring response contractors).

### Non-responding Facilities (§ 68.90(b))

EPA has adopted a policy for non-responding facilities similar to that developed by OSHA in its Hazardous Waste Operations and Emergency Response (HAZWOPER) Standard (29 CFR 1910.120), which allows certain facilities to develop an emergency action plan to ensure employee safety, rather than a full-fledged emergency response plan. If your employees will not respond to accidental releases of regulated substances, then you need not comply with the emergency response plan and program requirements. Instead, you are simply required to coordinate with local response agencies to ensure that they will be prepared to respond to an emergency at your facility. This will help to ensure that your community has a strategy for responding to and mitigating the threat posed by a release of a regulated substance from your facility. To do so, you must ensure that you have set up a way to notify emergency responders when there is need for a response.

Coordination with local responders also entails the following steps:

- If you have a covered process with a regulated toxic, work with the local emergency planning entity to ensure that the facility is included in the community emergency response plan prepared under EPCRA regarding a response to a potential release.
- If you have a covered process with a regulated flammable, work with the local fire department regarding a response to a potential release.

### What Is “Response”?

EPA interprets “response” to be consistent with the definition of response specified under OSHA’s HAZWOPER Standard. OSHA defines emergency response as “a response effort by employees from outside the immediate release area or by other designated responders ... to an occurrence which results, or is likely to result, in an uncontrolled release of a hazardous substance.” The key factor here is that responders are designated for such tasks by their employer. This definition excludes “responses to incidental releases of hazardous substances where the substance can be absorbed, neutralized, or otherwise controlled at the time of release by employees in the immediate release area, or by maintenance personnel” as well as “responses to releases of hazardous substances

## RMP Categories (Programs 1, 2 and 3)

The Risk Management Program (40 CFR 68) defines the activities sources must undertake to address the risks posed by regulated substances in covered processes. To ensure that individual processes are subject to appropriate requirements that match their size and the risks they may pose, EPA has classified them into three categories (“Programs”).

**Program 1** requirements apply to processes for which a worst-case release, as evaluated in the hazard assessment, would not affect the public. These are sources or processes that have not had an accidental release that caused serious offsite consequences. Remotely located sources and processes using listed flammables are primarily those eligible for this program.

**Program 2** requirements apply to less complex operations that do not involve chemical processing (e.g., retailers, propane users, non-chemical manufacturers, and other processes not regulated under OSHA’s PSM Standard).

**Program 3** requirements apply to higher risk, complex chemical processing operations and to processes already subject to the OSHA PSM. The OSHA PSM Standard (29 CFR 1910.119) reflects the key elements that the petrochemical industry, trade associations, and engineering societies have deemed essential to safe management of hazardous substances for complex, chemical-processing operations. EPA has adopted OSHA’s PSM requirements as the Program 3 prevention program, with only minor changes in terminology. With few exceptions, processes assigned to Program 3 are already subject to the OSHA PSM Standard; the remaining Program 3 processes are in industry sectors that have a significant accident history.

*continued on page 5*

## Emergency Response Program

continued from page 4

where there is no potential safety or health hazard (i.e., fire, explosion, or chemical exposure).”

However, due to the nature of the regulated substances subject to EPA’s rule, only the most minor incidents would be included in this exception. In general, most activities will qualify as a response due to the immediacy of the dispersion of a toxic plume or spread of a fire, the volatilization of a spill, and the threat to people on and off site. As a result, if you will have your employees involved in any substantial way in responding to releases, you will need to develop an emergency response program. Your emergency response procedures need only apply to “response” actions; other activities will be described in your maintenance and operating procedures. Although you do not need to describe these activities in your risk management plan, document your efforts and keep a record of:

- The emergency contact (i.e., name or organization and number) that you will call for a toxic or flammable release.
- The organization that you worked with on response procedures.

### Elements of an Emergency Response Program (§ 68.95)

If you will respond to releases of regulated substances with your own employees, your emergency response program must consist of the following elements:

- An emergency response plan (maintained at the facility) that includes:
  - Procedures for informing the public and emergency response agencies about releases
  - Documentation of proper first aid and emergency medical treatment necessary to treat human exposures
  - Procedures and measures for emergency response
  - Procedures for using, inspecting, testing, and maintaining your emergency response equipment
  - Training for all employees in relevant procedures
  - Procedures to review and update, as appropriate, the emergency response plan to reflect changes at the facility and ensure that employees are informed of changes.



Emergency Response Team

## Relationship to HAZWOPER

If you choose to establish and maintain onsite emergency response capabilities, then you will be subject to the detailed provisions of the OSHA and EPA HAZWOPER Standard. HAZWOPER covers preparing an emergency response plan, employee training, medical monitoring of employees, recordkeeping, and other issues. Call your state or federal district OSHA office for more information on complying with the HAZWOPER Standard (find contact names and addresses for OSHA offices at <http://www.osha.gov/oshdir/r10.html/>). State and local governments in states without a delegated OSHA program are subject to HAZWOPER under EPA’s 40 CFR part 311.

### How Does the Emergency Response Program Apply?

The requirements for the emergency response program are intended to apply across all covered processes at a facility. Although certain elements of the program (e.g., how to use specific items of response equipment)

may differ from one process to another, EPA does not intend or expect you to develop a separate emergency response program for each covered process. With this in mind, you should realize that your emergency response program will probably apply to your entire facility, although technically it need only apply to covered processes. For example, a facility may have two storage tanks, one containing slightly more than a threshold quantity of a regulated substance and one with slightly less. The facility is likely to adopt the same response approach (e.g., procedures, equipment, and training) for releases whether or

not the process is “covered.” Similarly, a facility may have two adjacent flammable storage tanks, one containing a regulated substance above the threshold and the other containing another, and unlisted flammable. The facility is likely to adopt the same approach for releases whether or not the process is “covered.”

### Developing an Emergency Response Program

The development of an emergency response program should be approached systematically. The following steps outline a systematic approach that can serve as the framework for the program development process in each of these cases. Following these initial steps will allow you to conduct the rest of the process more efficiently.

continued on page 6

*Emergency Response Program**continued from page 5***1) Form an emergency response program team**

The team should consist of employees with varying degrees of emergency response responsibilities, as well as personnel with expertise from each functional area of your facility. You should consider including persons from the following departments or areas:

- Maintenance
- Operations or line personnel
- Upper and line management
- Legal
- Fire and hazmat response
- Environmental, health, and safety affairs
- Training
- Security
- EPCRA section 302 emergency coordinator (if one exists)
- Public relations
- Personnel

Of course, the membership of the team will need to be more or less extensive depending on the scope of the emergency response program. A three-member team may be appropriate for a small facility with a couple of process operators cross-trained as fire responders, while a facility with its own hazmat team and environmental affairs department may need a dozen representatives.

**2) Collect relevant facility documents**

Members of the development team should collect and review all of the following:

- Site plans
- Existing emergency response plans and procedures
- Submissions to the LEPC under EPCRA sections 302 and 303

- Hazard evaluation and release modeling information
- Hazard communication and emergency response training
- Emergency drill and exercise programs
- After-action reports and response critiques
- Mutual aid agreements

**3) Identify existing programs to coordinate efforts**

- The team should identify any related programs from the following sources:
- Corporate- and industry-sponsored safety, training, and planning efforts
- Federal, state, and local government safety, training, and planning efforts

**4) Determine the status of each required program element**

Using the information collected, you should assess whether each required program element is:

- In place and sufficient to meet the requirements of RMP (part 68)
- In place, but not sufficient to meet the requirements of RMP (part 68), or
- Not in place.

This examination will shape the nature of your efforts to complete the emergency response program required under the Risk Management Program. For example, if you are already in compliance with OSHA's HAZWOPER Standard, you have probably satisfied most, if not all, of the requirements for an emergency response program.



*The first responders at the scene of a release of a hazardous substance are usually fireman or state or local police. They conduct the initial assessment of the situation and take emergency actions such as fighting a fire, securing the area, or re-routing traffic.*

## New Versions of ALOHA and CAMEO

**New versions of ALOHA and CAMEO Chemicals are now available.**

Download ALOHA 5.4.3 at <http://www.epa.gov/emergencies/content/cameo/aloha.htm>

Visit the CAMEO Chemicals website version at <http://www.cameochemicals.noaa.gov>

Download the CAMEO Chemicals 2.2 desktop version at <http://www.response.restoration.noaa.gov/cameochemicals>

## OSHA's New Hazard Communication Standard (HCS)

OSHA is modifying its Hazard Communication Standard (HCS) to conform to the United Nations' Globally Harmonized System of Classification and Labeling of Chemicals (GHS). OSHA Administrator Dr. David Michaels said the effective date is Dec. 1, 2013, for employees to be trained on new GHS-compliant labels. Manufacturers and importers of chemicals as of June 1, 2015, must comply with the final rule, although some distributors can still ship products complying with the current HCS until Dec. 1, 2015. Full implementation is reached in 2016.

The modifications to the standard include (1) revised criteria for classification of chemical hazards; (2) revised labeling provisions that include requirements for use of standardized signal words, pictograms, hazard statements, and precautionary statements; (3) a specified format for safety data sheets; and, (4) related revisions to definitions of terms used in the standard, and requirements for employee training on labels and safety data sheets. [Read on>>](#)

### Where Do I Go For More Information?

<http://www.epa.gov/emergencies/rmp> will be updated as new information becomes available.

EPA maintains numerous listservs to keep the public, state and local officials, and industry up to date, including several that pertain to emergency management. You can sign up for our list serve to receive periodic updates:

[https://lists.epa.gov/read/all\\_forums/subscribe?name=callcenter\\_oswer](https://lists.epa.gov/read/all_forums/subscribe?name=callcenter_oswer)

EPA Region 10 RMP Coordinator:  
Javier Morales 206-553-1255

EPA Region 10 RMP Website:  
<http://yosemite.epa.gov/R10/CLEANUP.NSF/sites/rmp>

**Superfund, TRI, EPCRA, RMP & Oil Information Center** - The Information Center can also answer questions related to Clean Air Act section 112(r) and RMP reporting requirements. (800) 424-9346 or TDD (800) 553-7672 (703) 412-9810 or TDD (703) 412-3323 in the Washington, D.C. area  
Normal Hours of Operation:  
Monday - Thursday 10:00 a.m. - 3:00 p.m. Eastern Time  
Extended Hours of Operation (May, June, and July):  
Monday - Friday 9:00 a.m. - 5:00 p.m. Eastern Time  
Closed Federal Holidays  
<http://www.epa.gov/superfund/contacts/infocenter/>

**Risk Management Program (RMP) Reporting Center** - The Reporting Center can answer questions about software or installation problems. The RMP Reporting Center is available from 8:00 a.m. to 4:30 p.m., Monday through Friday, for questions on the Risk Management Plan program. (703) 227-7650 (phone)  
[RMPPRC@epa.cdx.net](mailto:RMPPRC@epa.cdx.net) (e-mail)

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**RISK MANAGEMENT  
PROGRAM (RMP) Training**

**Portland Oregon:  
September 11, 2012**

Find details on:

[EPA Region 10's RMP website – Portland Training](#)

