



# CHEMICAL EMERGENCY PREVENTION & PLANNING

*Newsletter*



September - October 2010

US EPA Region 10

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## CHEMICAL EMERGENCY PREVENTION & PLANNING

*Newsletter*

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*Investigation into January 2004 Huntsman Petrochemical Explosion in Port Neches, Texas*

## Piping and Equipment That May Contain Flammable or Chemically Reactive Materials

Investigation Details: (Source: Chemical Safety Board July 15, 2004)

Removal of Hazardous Material from Piping Systems ([download full report](#))

CSB's investigated a January 13, 2004, explosion and fire at the Huntsman Petrochemical facility in Port Neches, Texas, where two employees were seriously burned and significant damage occurred to nearby equipment. The explosion and fire occurred as workers attempted to purge a thousand-foot-long chemical process pipe in preparation for a cutting and welding operation.

Huntsman managers and workers were aware of the importance of completely removing hazardous material before cutting into the piping, and relevant warnings were contained in the company's written operating procedures. In this incident, workers first purged the piping with nitrogen to force out residual chemicals, including a hazardous mixture of peroxide and alcohol that reacts violently when heated. But unknown to the workers, the piping included a 300-foot-long section that was three feet lower than the rest of the piping, and despite the nitrogen purge, a significant amount of the hazardous mixture remained trapped.

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## RMP Guidance

### RMP De-Registration

Changes may occur at your facility which make it no longer subject to the Risk Management Program (RMP) regulations. Examples of such changes include:

1. Replacing the regulated chemicals in your covered process with alternative chemicals so that the facility no longer uses any chemical regulated under RMP.
2. Reducing inventory of all regulated chemicals to below threshold quantities.
3. Terminating operations at the facility.

Facilities that are no longer subject to RMP regulations should de-register from the program. To de-register, submit a deregistration form (see link below) to the RMP Reporting Center within six months.

Instructions:

- Include the effective date of the de-registration (the date on which the facility was no longer covered by the RMP regulation).
- The owner or operator should sign the form.
- Include your RMP Facility ID number (the 12-digit ID number that was given to you in the notification letter you received from the RMP Reporting Center regarding the submission status of your Risk Management Plan).
- Mail the signed form to: RMP Reporting Center, P.O. Box 10162 Fairfax, VA 22038.

If you de-register your facility and it later becomes subject to the RMP regulation, you will need to re-submit a Risk Management Plan.

[De-registration form](#)

### General Duty to Manage Chemicals Safely

Facilities that have de-registered from the Risk Management Program (RMP) continue to be responsible for managing chemicals safely, according to a section of the Clean Air Act called the General Duty Clause.

Owners and operators of all facilities that produce, process, handle, or store hazardous chemicals are responsible for ensuring that their chemicals are managed safely, according to the Clean Air Act section 112(r)(1) General Duty Clause (GDC). All such facilities must 1) identify hazards which may result from accidental releases, 2) design and maintain a safe facility, taking steps necessary to prevent releases, and 3) minimize the consequences of accidental releases that do occur.

Facilities that have de-registered from RMP continue to be subject to GDC requirements. For example, the amount of ammonia that a refrigeration facility has onsite may drop below the RMP threshold of 10,000 pounds to 9,500 pounds of ammonia. The facility may de-register from RMP if the facility no longer has any regulated chemical above the threshold amount. The facility would still be required to comply with GDC.

To comply with GDC, generally, among other things, you should:

1. Adopt or follow any relevant industry codes, practices or consensus standards (for the process or facility as a whole as well as for particular chemicals or pieces of equipment),
2. Be aware of unique circumstances of your

facility which may require a tailored accident prevention program, and

3. Be aware of accidents and other incidents in your industry that indicate potential hazards.

By following best practices for safety, you can prevent chemical accidents and protect human health and the environment.

The consequences of chemical accidents include costly cleanup and penalties (up to \$37,500 per day for each violation of GDC).

For more information:

[Guidance](#)  
[Fact Sheet](#)

### EPA to Seek Employee Participation in Chemical Safety Inspections

WASHINGTON – The U.S. Environmental Protection Agency (EPA) has released interim guidance that would provide greater transparency in the agency's chemical safety inspections process. Under the interim guidance, EPA staff conducting on-site compliance evaluations at RMP facilities should offer facility employees and employee representatives the opportunity to participate in any such evaluations. EPA believes that close involvement of employees and employee representatives in inspections is effective and better protects workers and the adjacent communities.

EPA expects to issue final guidance on participation of employees and employee representative in RMP inspections later this year.

For more information: [EPA's interim guidance](#)

## RETA National Conference

This refrigeration engineers and technicians association is holding their national conference November 16-19, 2010 in Portland, Oregon. They have a special ammonia safety training and free Exhibit Hall pass offer for Tuesday. For more information go to the [RETA website](#).

### Wrong Material in the Wrong Tank: a Fatal Reactive Chemistry Incident - Process Safety Moments from CCPS

The Center for Chemical Process Safety (CCPS) is an international association committed to Process Safety. They are a resource for safety information and training.

A new feature is the Process Safety Moment. These power point presentations can be downloaded and used for safety training. The first presentation describes an incident in which the incorrect material was unloaded from a tank truck into a storage tank. The presentation includes topics for discussion, notes and links to further information.

**Purpose:** The purpose of these presentations is to use past incidents to raise the hazard awareness of the broader chemical industry, to bring more detail than the Process Safety Beacon alone can provide and to allow discussion of the potential hazards, controls and safeguards at your facility.

**Use:** The Process Safety Moments presentations can be used at safety meetings, crew meetings, technical meetings or Leadership team meetings. CCPS does not limit how or where you choose to use them and encourage sharing them with all levels of your operations.

Wrong Material in the Wrong Tank [Download the presentation](#)

**Additional Resource:** CCPS Process Safety Beacon is a resource aimed at delivering process safety messages to plant operators and other manufacturing personnel. The Process Safety Beacon is sponsored and produced by CCPS. The monthly one-page Process Safety Beacon covers the breadth of process safety issues. Each issue presents a real-life accident, and describes the lessons learned and practical means to prevent a similar accident in your plant.



## Piping and Equipment That May Contain Flammable or Chemically Reactive Materials

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The next step in the operation was to use high-temperature steam to purge the piping of what workers believed would be a small amount of residual flammable hydrocarbon vapor. But the steam heated the peroxide that was trapped in the low section of piping. The peroxide then began to decompose, releasing heat and creating intense pressure. The pressure blew out a valve gasket and violently ruptured the pipe. Flammable vapors shot out of the openings and ignited into a large fireball, injuring plant workers.

After the accident, Huntsman found two drains in the low section of the pipe, which could have been used to remove the trapped liquid. Had Huntsman's procedures called for reviewing plant pipe drawings and physically walking the entire line within the work boundaries, the accident would likely have been avoided.

CSB's Safety Bulletin points out that chemical plant and refinery operators routinely open piping to perform maintenance, change components, or reroute lines. The Bulletin states, "Safe work practices dictate the removal or mechanical isolation of hazardous material from piping and equipment before commencing work."

### Lessons Learned

The Bulletin notes that work involving the opening of chemical process pipes should never be considered routine. The Bulletin recommends that facilities should:

- Physically examine all piping and components between isolation devices such as valves, and be sure piping drawings are current
- Use the drawings to identify key components, such as low-point drains that can be used to remove dangerous chemicals
- Prepare a specific written procedure for removing hazardous material and consider the consequences of working on piping that is not completely purged.

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)

[RMPRC@epa.cdx.net](mailto:RMPRC@epa.cdx.net) (e-mail)

This newsletter provides information on the EPA Risk Management Program, EPCRA, SPCC/FRP and other issues relating to Accidental Release Prevention Requirements. The information should be used as a reference tool, not as a definitive source of compliance information. Compliance regulations are published in 40 CFR Part 68 for CAA section 112(r) Risk Management Program, 40 CFR Part 355/370 for EPCRA, and 40 CFR Part 112.2 for SPCC/FRP.