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What to do When You Have a Chemical Spill

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Introductions

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Chemical Spill Response - Agenda

- > Background
- > Spill Plan Preparation
 - ❖ Site Review
 - ❖ Spill Response Procedures
 - ◆ Internal Notification
 - ◆ Incident Command
 - ◆ Training
 - ◆ Response Equipment
 - ❖ Spill Cleanup & Decontamination
- > Release & Spill Reporting
- > Incident Review
- > Recordkeeping

Why Is This Important?

- > Huge fines (\$37,500 per day per violation)
- > Huge liability
- > Huge cleanup costs, easily made worse
- > Failure to comply with these laws could result in civil and criminal penalties

Federal Spill Reporting Statutes

- > Clean Water Act (CWA), Sec. 311
- > Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), Sec. 103. 40 CFR 302
- > Emergency Planning and Community Right-To-Know Act (EPCRA). 40 CFR 355
- > Resource Conservation and Recovery Act (RCRA) Emergency Spill Reporting (RCRA) 40 CFR 265
- > The Federal Hazardous Materials Transportation Law. 49 CFR

State Spill Reporting Statutes

> Iowa

- ❖ Iowa Hazardous Conditions, 567 IAC 131

> Illinois

- ❖ Illinois Emergency Planning and Community Right-to-Know Act, 430 ILCS 100/1 et. seq.
- ❖ State Regs. at 29 IAC 430

Emergency Response Plans

- > Emergency Action Plan
- > Spill Prevention, Control, and Counter Measure Plan (SPCC)
- > Facility Response Plans (FRP)
- > Storm Water Pollution Prevention (SWP3)
- > Hazardous Waste Contingency Plan
- > Risk Management Plans (RMP)
- > Integrated Contingency Plans (ICP)
- > **Plan Goal: Process is so streamlined that a spill can be reported to Gov't within 15 minutes of discovery**

Plans Need To Address

- > Type of Emergencies/Releases
- > Internal reporting procedures
 - ❖ Notification
 - ❖ Alarms
- > Emergency Coordinators
- > Emergency Response Equipment
 - ❖ Type & Quantity
 - ❖ Location
 - ❖ Function
- > Use of Contractors
- > Evacuation
 - ❖ Routes & Muster Areas
 - ❖ Operating Critical Equipment
 - ❖ Procedures to Account for Employees
 - ❖ Medical Duties
- > Training on the Plan

Focus on Prevention (1/2)

- > Are chemicals being stored correctly?
 - ❖ Compatible container material, structurally sound
 - ❖ Separation of incompatible materials
 - ❖ Have secondary containment structures for storage containers
 - ◆ Are drainage valves closed/locked?
 - ◆ Is the containment sound?
- > Are chemicals being transferred correctly?
 - ❖ Are transfer operations manned at all times?
 - ❖ Forklift usage
- > Are personnel trained
 - ❖ To handle materials
 - ❖ To use response equipment
 - ❖ On internal reporting procedures

Focus on Prevention (2/2)

- > Before loading chemicals to/from trailers and tankers
 - ❖ Do you understand where the liquid will flow?
 - ◆ Will the liquid flow off site in the event of a spill?
 - ❖ What are the prevention measures you should implement?
 - ◆ Are spill kits available?
 - ◆ Drain covers?
 - ◆ Drip pans?
 - ◆ Hose connections?
 - ◆ Wheel chocks?
- > Have spill kits available for response
 - ❖ Is there enough response material available to stop a spill from getting offsite?

Spill Response

So... you had a spill

General Spill Response Process

- > Focus on safely containing spill from exiting facility, reaching environment, if possible
 - ❖ If facility stops operation, monitor for leaks, or ruptures
 - ❖ If required, evacuate area
 - ❖ **Assess possible hazards & cleanup ASAP if possible**
- > Follow internal notification procedure
 - ❖ Notify plant management ASAP and anyone in the surrounding area of the spill (alarms, walkie-talkies, PA system, etc.)
 - ❖ Establish Incident Command if needed
 - ❖ Identify characteristics, source and quantity of released material
 - ❖ Determine if area evacuation is needed
- > Notify the appropriate agencies, if the release has traveled outside the facility or has exceeded the reportable quantity
- > Determine proper disposal of cleanup/decon wastes
- > Restock supplies
- > Review incident to prevent recurrence
- > Keep records & perform annual reporting if applicable

Incident Commander Responsibility

- > Take control of situation - direct flow of resources & response actions
- > Traffic control
- > Information exchange
 - ❖ Identify material released
 - ❖ Quantity released
 - ❖ Source of discharge
- > Isolate other hazards
- > If needed
 - ❖ Evacuate
 - ❖ Call outside agencies
- > Monitor clean-up
- > Perform Incident Investigation

Release & Spill Reporting

Oil Pollution

CWA - 40 CFR 110.6 & 112.4

- > Any discharge of oil from such vessel or facility that causes a film, sheen, discoloration, or sludge in a waterway must immediately notify the National Response Center (NRC) 1-800-424-8802
- > Whenever your facility has discharged more than 1,000 U.S. gallons of oil in a single discharge, or discharged more than 42 U.S. gallons of oil in each of two discharges, occurring within any twelve month period, submit a report to the Regional Administrator within 60 days of the incident

CWA - 40 CFR 117.21

- > Under the Clean Water Act 40 CFR 117.21

Any person in charge of a vessel or an onshore or an offshore facility shall, as soon as he has knowledge of any discharge of a designated hazardous substance from such vessel or facility in quantities equal to or exceeding in any 24-hour period the reportable quantity determined by this part, immediately notify the appropriate agency of the United States Government of such discharge

- > Hazardous Substance List found in 40 CFR 117.3

- ❖ (Note: Each substance in Table 117.3 that is listed in Table 302.4, is assigned the reportable quantity listed in Table 302.4 for that substance)

- > Immediately means not to exceed 15 minutes

- > No follow-up written report required

Hazardous Substances

- > Hazardous substances that are oils or that are mixed with oils are subject to regulation under the SPCC rule
- > Hazardous substances identified in 40 CFR 116 (CWA Hazardous Substances) are not regulated as oils if not a mixture
- > An oil mixture that includes a CWA hazardous substance is regulated as an oil

Industrial Pretreatment Standard *(40 CFR 403)*

- > All categorical and non-categorical Industrial Users shall notify the POTW immediately of all discharges that could cause problems to the POTW, including any slug loadings by the Industrial User.
- > Follow-up written notification within five days.

CERCLA - 40 CFR 302.6

- > Hazardous Substance Release under CERCLA

Any person in charge of a vessel or an offshore or an onshore facility shall, as soon as he or she has knowledge of any release (other than a federally permitted release or application of a pesticide) of a hazardous substance from such vessel or facility in a quantity equal to or exceeding the reportable quantity determined by this part in any 24-hour period, immediately notify the National Response Center [(800) 424-8802 or via on-line reporting tool]

- > Hazardous Substance List found in 40 CFR 302.4

- > Immediately means not to exceed 15 minutes

- > No follow-up written report required

- > If mixture % is unknown, then assume 100% for comparing to RQ

- > **Covers releases to the environment**

Federally Permitted Releases

- > Permitted or controlled by being subject to a federal regulation
- > Non-compliant releases are not federally permitted
- > "federally permitted release" if a pollutant permit limit exists
 - ❖ VOC limits make all VOC compounds "federally permitted"
- > For HAP area source, all HAP compounds are "federally permitted" as the HAP 10/25 tpy threshold is an emission cap
- > HAP major sources must review their MACT to determine which HAP categories are controlled directly, indirectly, or through a surrogate
- > Identify all applicable emissions and categorize their chemical type
 - ❖ HAP - categorized into organic, non-Hg metal, Hg, acid gas, etc.
 - ❖ VOC compound (yes/no)

EPCRA 40 CFR 355.31

- > Applies to any facility at which there is release of any EHS or CERCLA hazardous substance above the reportable quantity (RQ) unless exempt
- > Extremely Hazardous Substance List found in 40 CFR 355 Appendix A & B
- > Release Notification does not apply to:
 - ❖ Releases with only on-site exposures
 - ❖ Federally permitted releases
 - ❖ Pesticides or Radionuclides
 - ❖ Releases of NO and NO₂ to the air from combustion if <1,000 lbs/24 hrs

EPCRA 40 CFR 355.40(a)

- > Owner/Operator shall immediately notify the LEPC and SERC
 - ❖ Chemical name or identity
 - ❖ EHS status
 - ❖ Estimate of release quantity
 - ❖ Time and duration of the release
 - ❖ Impacted media
 - ❖ Known or anticipated health risks & advice regarding medical attention for exposed persons
 - ❖ Proper precautions to take, including evacuation
 - ❖ Name and phone number of contact person
- > Immediately means not to exceed 15 minutes
- > If no LEPC, then local emergency response agency (fire department)

EPCRA 40 CFR 355.40(b)

- > A follow-up written report due as soon as practicable (within 30 calendar days) that Includes:
 - ❖ Oral Report info
 - ❖ Actions taken to respond to and contain the release
 - ❖ Known or anticipated health risks
 - ❖ Advice regarding medical attention for exposed persons
- > Written report may be updated with new info

HW Incident Report

40 CFR 262.34

- > In the event of a fire, call the fire department or attempt to extinguish it using a fire extinguisher;
- > In the event of a spill, contain the flow of hazardous waste to the extent possible, and as soon as is practicable, clean up the hazardous waste and any contaminated materials or soil;
- > In the event of a fire, explosion, or other release which could threaten human health outside the facility or when the generator has knowledge that a spill has reached surface water, the generator must **immediately notify the National Response Center at 800-424-8802.**

LQG 15 Day Incident Report

RCRA 40 CFR 262.34/265.56

- > If HW incident reported to NRC, then must report the facility is in compliance with the treatment, storage, or disposal of recovered waste, contaminated soil or surface water from a fire, explosion or release before resuming operations in the affected area(s)
- > The 15-day written report must include:
 - ❖ Name, address, and telephone number of the owner/operator;
 - ❖ Name, address, and telephone number of the facility;
 - ❖ Date, time, and type of incident (e.g., fire, explosion)
 - ❖ Name and quantity of material(s) involved
 - ❖ The extent of injuries, if any;
 - ❖ An assessment of actual or potential hazards to human health or the environment, where this is applicable; and
 - ❖ Estimated quantity and disposition of recovered material that resulted from the incident.

Iowa Hazardous Conditions

567 IAC 131

> Report Hazardous Conditions:

- ❖ Any situation involving the actual, imminent, or probable spillage, leakage, or release of a hazardous substance onto the land, into a water of the state or into the atmosphere which, because of the quantity, strength and toxicity of the hazardous substance, its mobility in the environment and its persistence, creates an immediate or potential danger to the public health or safety or to the environment.

Iowa Hazardous Conditions

567 IAC 131

- > Report the Condition regardless of the RQ if:
 - ❖ The hazardous substance has the potential to leave the property,
 - ❖ The hazardous substance has the potential to reach a water of the state,
 - ❖ The hazardous substance can be detected in the air at the boundaries of the facility property,
 - ❖ There is a potential threat to the public health and safety or,
 - ❖ Local officials respond to the incident,
- > Report the Condition if the release exceeds a Federal RQ.
- > Verbal report: Notify as soon as possible but not later than 6 hours after occurrence or discovery:
 - ❖ Department (515) 725-8694
 - ◆ IDNR will assign spill number
 - ❖ Local police department or office of sheriff
- > Written report: Due within 30 days

Iowa Hazardous Conditions

567 IAC 131

- > Written report must contain:
 - ❖ IDNR Spill Number
 - ❖ Exact location of hazardous condition
 - ❖ Time and date of onset or discovery
 - ❖ Name of material, manufacturer, volume
 - ❖ Medium (land, water, air) impacted
 - ❖ Name, address, telephone number of responsible party
 - ❖ Time and date of verbal report
 - ❖ Weather conditions at time of onset
 - ❖ Name, mailing address, telephone number of person reporting
 - ❖ Name and telephone of person closest to scene of hazardous condition who can be contacted for further info
 - ❖ Any other info as needed: circumstances leading to hazardous condition, visible effects, containment measures

Illinois Notification Requirement 29 IAC 430.30

- > Notice shall be given immediately by to the IESDA (which is the SERC) by calling 1-800-782-7860 or 1-217-782-7860
- > Notices for RQ releases shall be given immediately via telephone, radio, or in person to the community emergency coordinator for the LEPC for any area likely to be affected by the release.
- > If there is no LEPC, notification shall be given to local emergency response personnel.
- > Notice shall also be given to the SERC for any other State likely to be affected.

In Case of a Reportable Spill, Immediately Do the Following:

- > Call 911
- > Call the National Response Center
 - ❖ 1-800-424-8802 (Toll Free)
 - ❖ Or use on-line reporting tool:
<http://www.nrc.uscg.mil/nrchp.html>
- > Call all LEPCs affected by the release
- > Call all SERCs affected by the release

In Case of a Reportable Spill, Also Do the Following:

- > Notify local agency based on location requirements
- > Submit written report within 30 days to SERC & LEPC
- > And other reports required local agency
- > Consider TRI Reporting
 - ❖ May need to report Spill
- > Consider POTW Reporting

Initial Notification Advice

- > Document actions already taken
- > Document weather conditions
- > Name and telephone number of the release discoverer
- > Name and telephone number of release reporter if different than designated contact

Spill Reporting Summary (1/3)

- > Review all hazardous chemicals on-site and the media potentially impacted
 - ❖ Compare the hazardous chemical to the chemical list for each program
 - ❖ Identify if the hazardous chemical has an RQ
 - ❖ Establish the appropriate agencies to be contacted
- > Assess how quickly an Agency can be contacted

Spill Reporting Summary (2/3)

- > Develop a notification worksheet;
 - ❖ Provide useful facility information for the caller,
 - ❖ A list of agency telephone numbers,
 - ❖ A space for the caller to record the person spoken to, the time of each call, and any feedback from the agency
- > Keep a copy of this notification on file for the follow- up written report if required

Spill Reporting Summary (3/3)

- > List the hazardous chemical by the agencies to be contacted and in the order they should be contacted
- > Base the order on the agency who will provide the quickest response
- > Example:
 - ❖ 1 - 911
 - ❖ 2 - LEPC/SERC
 - ❖ 3 - NRC (800) 424-8802
 - ❖ 4 - Local Environmental Agency

Practical Advice

- > Keep in mind that all calls to 911, NRC, SERC, and the LEPC are recorded
- > All written follow-up reports are subject to FOIA and are discoverable in litigation
- > May want a consultant or attorney to review all documents in advance of submitting them to third parties and government officials
- > Answer the questions honestly but do not speculate or engage in conjecture

Spill & Release Records

- > Spill Reporting (EPCRA/CERCLA)
 - ❖ Facility Chemical RQ levels
 - ❖ Non-reportable spill records
 - ❖ Spill notification records
 - ◆ Incident #s, date/time/Agency notified, names, weather conditions
- > Spill Reporting Record Retention:
5 years

Spill Incident Review

- > Investigate all spill incidents
- > Root Cause Analysis
- > Fish Bone Diagram
- > Pareto Analysis
- > Include the following;
 - ❖ Review the event, procedures, equipment, personnel
 - ❖ Review what can be done to prevent recurrence
 - ❖ Review if the response was quick and effective
- > Document findings
- > Apply learning to revise plans, procedures, equipment, training
- > Confirm the spill response equipment was replaced

Questions & Discussion

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