

Transcript for: *The 21st Century Resilient Business: Managing Your Chemicals Can Help You Weather the Storm*

The 21st Century Resilient Business:

Intro

The 21st Century resilient business: Managing your chemicals can help you weather the storm.

Navigating the Player

Hi, it's April and I'm here to give you a few pointers on how to use the course player to navigate through the program. First, notice the navigation bar at the bottom of the player. Here you'll find the volume control, a progress bar, and the pause, play and previous / next slide buttons. The progress bar lets you see your progress through a slide. And when the slide bar has finished playing, you can advance the slide by clicking on the next slide button. At any point in time, you can exit the player, when you return, the player will take you right back to the particular slide you were on.

Description

This online training course is designed for Connecticut businesses in flood-prone areas that have chemicals, hazardous materials and/or hazardous waste. It will identify actions businesses can take to be prepared in the event of extreme weather in order to protect the health and safety of employees and the local community and minimize cost and liability.

What Will I Learn

What you will learn:

What are the natural hazards common to Connecticut

Why should your business should be prepared

How to assess your risk as well as how neighboring facilities can impact your property

What specific actions your business can take to be prepared

Understand the importance of connecting with your local emergency managers

Learn from facilities that have already taken action

This training includes video clips of a local marina and the US Navy subbase as examples.

Who Will Benefit From This

Introduction:

Who will benefit from this training?

Whether you run a retail shop or service business, or are a small or large manufacturer, you most likely have toxic chemicals or hazardous waste on-site. Find out what steps you can take to become a disaster-prepared, resilient business and prevent damage, contamination, and liability and keep your business operating.

1

If you are a Connecticut manufacturer, you most likely have chemicals on site that are used in your processes, and you may also generate hazardous wastes.

2

If you are a retailer or service business, you may have products on shelves or in storage areas that are toxic to humans and can cause pollution if the materials escape from these areas.

3

In the event of an extreme weather event, these chemicals could find their way into the environment due to flooding, power outages, sea-level rise and/or strong winds.

4

Don't wait for a disaster to strike. Become a 21st century resilient business by preparing now. Without a plan in place, it's more costly to restore operations of your business after a storm.

5

Business owners are also liable for any contamination and cleanup caused by their chemicals from their facility.

What Will I Learn

Overview

In this training you will learn about Connecticut's natural hazards and changing weather patterns and how they can impact your business in both the short term and the long term. You will also learn specific steps to prepare your business for severe weather events and their benefits. These steps include: Identifying your risks by using online maps and tools, Conducting an inventory of chemicals especially hazardous materials and wastes, Flood proofing your chemical storage to prevent pollution, Learning from facilities that have already taken action,

Developing a plan to train employees and build relationships with emergency personnel. This training will ultimately help you learn ways to better manage your chemicals, protect your employees and community, and minimize the cost and liability in the event of a severe weather event.

Natural Hazards Common to Connecticut

Overview:

Since 2010, Connecticut has experienced about one dozen major storms, along with lesser weather events, all of which resulted in significant damage due to severe flooding, both inland and coastal, and other negative impacts. Chemical management during these events is crucial to prevent contamination of surrounding areas and water bodies.

Storm Timeline

Did any of these Connecticut Storms affect your business? Were you prepared?

Hurricanes Florence, Jose, Matthew and Joaquin

Tropical Storms Hermine and Arthur

Blizzard Nemo

Super Storm Sandy

Winter Storm Alfred

Tropical Storm Irene

and tornadoes in 2013 and June 2010

Why Focus on Flooding?

Why Focus on Flooding? Flooding has become all too common. In 2018 and 2019, many Connecticut towns experienced weather events that resulted in major flooding. Some examples include:

The historic ice jams in the Housatonic and Connecticut Rivers that flooded Kent and Haddam, and other nearby towns.

Heavy rains, flash floods, and higher than normal tides in the fall of 2018 that impacted Fairfield County including Bridgeport, Norwalk, and Greenwich, as well as Meriden and other parts of the state.

In July 2019, New Haven including Tweed New Haven airport and neighborhoods in Hartford were severely flooded from storms.

Increase in Precipitation

There has been a dramatic 71% increase in extremely heavy precipitation in Connecticut and the Northeast in the last 50 years and this trend continues. Severe storms in the U.S. cause an average of 100 deaths per year in flood-related accidents, an average of \$3.8 billion annually in property damage, and pollute land, air and water.

Hurricane Harvey

In 2017, Hurricane Harvey in Texas showed us how serious the environmental and health effects can be of severe weather. The Associated Press wrote there were 100 Harvey-related toxic releases. The US Coast Guard had 96 reports of oil, chemical or sewage spills. Tons of chemicals were also released by industry — including carcinogens such as butadiene, benzene and vinyl chloride, firefighting foam (PFAS) and even mercury.

Vulnerable Areas

Connecticut's communities, especially those along the coast, are as vulnerable as Houston was during Hurricane Harvey.

Many large industries, mid-size manufacturers and small businesses in Connecticut have chemicals on-site.

A number of coastal cities, such as, Bridgeport, Stratford, West Haven and New Haven, are additionally challenged, by being densely- populated and having a significant amount of low-income neighborhoods with limited access to vehicles for rapid evacuation.

How Does This Impact Your Business

What You Should Know

Did you know that 40 percent of businesses affected by a disaster never reopen? 25 percent of disaster-struck businesses that reopen eventually fail. 90 percent of businesses without a plan fail within 2 years of being struck by a disaster.

What kind of damage can a business sustain from a storm event?

Water damage to property and equipment, inventory destroyed or carried away, chemicals or other materials can leak into the environment.

If you are a Connecticut manufacturer, you most likely have chemicals on site that are in your processes and also generate hazardous wastes.

If you are a retailer or service business, you may have products on shelves or in storage areas that are toxic to humans and can pollute the environment.

Business owners are liable for any contamination and cleanup caused by their hazardous materials.

What Is a 21st Century Resilient Business?

Don't Wait For Disaster To Strike

Don't wait for a disaster to strike. Resilience is being ready. A 21st Century resilient business anticipates, prepares for and adapts to changing conditions. It is able to respond to and recover rapidly from disruption.

Don't wait for a disaster to strike. Prepare for extreme weather now. Otherwise, it is more costly to restore operations of your business and it can expose you to liability from chemical pollution to the surrounding area. People's safety is at stake.

How Can I Make My Business More Resilient?

4 Steps to Get You Started

This training provides a basic introduction to some of the more common actions you can take. They have been broken down into four steps. These are general suggestions. We encourage you to implement as many as possible that work for your facility and we also recommend you work with a consultant and/or local emergency planners for a more specific plan.

Step 1: Identify your Risks

Step 2: Know which Chemicals, Hazardous Waste and Materials you have on site

Step 3: Identify actions you can take to be prepared and prevent problems

Step 4: Have an Emergency Plan and:

Step One

Identify Your Risks

Step 1: Identify your risks.

Extreme weather can happen anywhere. Even if your business is not in a floodplain, it can be flooded by natural or man-made events. The first thing you want to do to prepare is find out if your business is in a vulnerable area, for example if it's in the flood zone.

Public Viewer

Video clip: The Department of Energy and Environmental Protection has an on-line tool for businesses to assess the vulnerability of their location to climate-related natural hazards. The Connecticut Toxics Users and Climate Risk public viewer allows you to open a map, enter your business address and see whether it's in a flood zone, and to look at projected rises in sea levels to compare how this could affect your area. The viewer will also allow you to gauge your proximity to other facilities managing toxic materials that may impact normal operations, if flooding affects those facilities. You can assess your risks by typing in your address and looking at the different layers on the map including Connecticut Hurricane evacuation zones layer, National flood hazard layer, and Sea Level Rise Layer. There are also layers that show facilities regulated under RCRA, EPCRA Tier 2, and TRI programs. A complete description of each spatial layer included in this viewer can be found under the information button.

Let's go through an example: Enter the address for the DEEP's Marine Headquarters on Ferry Road in Old Lyme. This site is very flood-prone. You can see it is in Hurricane Evacuation Zone A and the building is located in the 100-year floodplain, and AE10 flood zone. It is also located very close to the mouth of the Connecticut River.

100 Year Flood Zone

A common misinterpretation of the 100-year flood zone is that it means your chances of experiencing a flood is once in every 100 years. A property in a 100-year flood zone actually has a 1 percent chance of flooding in any given year, which also means it can flood more than once within a 100-year period, and can even flood more than once in the same year. Keep in mind that FEMA continually

updates their flood maps and new areas may be added. You can also use the FEMA flood maps on their map service center webpage at [msc.fema.gov](https://www.msc.fema.gov)

Flood Insurance

Remember, if your facility is in a flood zone, it is more likely to be impacted and you should have flood insurance. However, floods can happen anywhere. Even if your business is not in a floodplain, it can be flooded by natural or man-made events. The federal government's National Flood Insurance Program commercial policy limits how much it will cover for the structure and contents. It doesn't cover the costs of business interruption. If you rent your facility, you may not have flood insurance. You should ask your landlord if they do. Renters can get flood insurance to cover contents.

Step Two

Chemicals on Site

Step2: Know which chemicals, hazardous waste and materials you have on site and comply with all environmental regulations.

Safety Data Sheet

Most businesses have chemicals on-site as part of their operations as well as for cleaning. Any chemical you use, stock or sell has a safety data sheet. The chemical may not be in sufficient quantity or present a significant enough hazard to merit a specific federal or state regulation. However, understanding the safety data sheet can ensure you are prepared prior to and in the event of a storm event.

Chemicals to be Aware of

Remember that cleaning products, indoor pesticides, lawn and garden supplies, automotive products, paints, stains, strippers and solvents, batteries, and fuels such as propane and kerosene are all chemicals that can cause problems if not stored and managed properly.

Examples

Small businesses, retailers or service providers may not realize that they may have chemicals on site. Here are some examples:

Hardware and Big Box Stores

Hardware stores and big box stores:

Lawn and Garden Chemicals, Propane Tanks, Pesticides, Paints, Stains, Lubricants
Glues and Adhesives, CFC Light Bulbs, Road Salt and De-Icing Products
Cleaning Products, Solvents and Degreasers

Automotive Repair and Supply

Automotive repair, auto salvage, salvage yards and marine supply:

Solvents, Oils, Lubricants, Antifreeze, Degreasers, Tires, and Metal

Pharmacies

Pharmacies:

Pharmaceuticals, First Aid Items, Cleaning Supplies
Lighter Fluid, Hair Dyes,
Nail Polish and Nail Polish Remover

Dry Cleaners

Dry cleaners and laundries:

Solvents, Spot Cleaners, Detergents

Landscapers

Landscaping and pest control:

Lawn Chemicals, Fertilizers

Salons

Beauty salons and nail salons:

Plasticizers, Solvents, Pigments and Dyes

Gyms and Hotels

Gyms and hotels:

Pool Chemicals, Cleaning Supplies, Winter De-Icing Chemicals

Cleaning

Cleaning and Carpet Cleaning:

Bleach, Detergents, Solvents, Degreasers

Keep Good Records

Keeping good records of chemicals your business has on site is an important step in being prepared. This includes chemicals you buy, use, generate, dispose of and store. Some examples of documents you should utilize include purchase receipts, hazardous waste manifests, daily log of chemicals used and weekly inspection logs.

It is a best management practice for a business to have an “emergency binder” checklist in advance of a storm event that includes phone numbers of local police, fire, hospitals, and emergency response providers. Hazardous waste generators have requirements to do so.

Video clip:

Knowing what chemicals your facility has on site is an essential part of being prepared. For the most part, you’re going to know when a hurricane or storm event is going to occur. The key is having an inventory, and knowing where your material and where your waste is. And knowing who is responsible for that, and knowing where you’re going to put it when it comes.

Best Management Practices

Some chemicals are classified as hazardous materials or wastes and are subject to regulations related to proper storage. To make your business more hazard resilient, you should follow the same management practices even if your chemicals are not considered hazardous. These include:

Label all containers with up-to-date information.

Keep containers sealed and in good condition.

Store materials inside, if practical.

Regularly inspect, maintain, repair and upgrade storage equipment and personal protective equipment.

Refer to each chemical’s Safety Data Sheet (SDS) for specific storage recommendations.

Store incompatible materials separately.

Get as much hazardous waste as possible off site.

Send it to a permitted Treatment, Storage, and Disposal facility (TSDF) using a permitted hazardous waste transporter. See DEEP’s webpage for a list of permitted transporters.

Video clip: Knowing what chemicals your business has on site is an essential part of being prepared. I do a daily walk-through through the whole facilities just making sure that there's no hazards as far as any of the chemicals any of the employees left anything out on a bench or out in a work area, I make sure that they're picked up. Just police the area basically, and make sure that we're environmentally safe.

Environmental Regulation

All Connecticut businesses should know which environmental regulations they are subject to, such as Resource Conservation and Recovery Act (RCRA) and the Emergency Planning and Community Right to Know (EPCRA) and comply with them. Businesses subject to RCRA have specific record keeping requirements and can only store a certain amount of hazardous waste on site for a specific length of time. All businesses have legal obligations to determine their generator category. Facilities that are subject to EPCRA Tier 2 reporting that are at high risk of flooding, severe weather event or sea level rise must comply with a law that took effect in 2019 requiring hazard mitigation plans to be updated to address this risk CGS 22a-610 (e). Check the CT DEEP's webpage if you need information on environmental regulatory requirements that may apply to your business. You can also call DEEP's Compliance Assistance Line, "Compass" at 888-424-4193, or search "RCRA help" from the DEEP website homepage. We've included some resources and links at the end of this training.

Step Three

Identify actions

Step 3: Identify actions you can take to be prepared and prevent problems. If your business is in a flood prone area, you need to take extra precautions. Here are some actions you can take to ensure that your chemicals are not accidentally released into the environment during a storm:

Move your chemicals and hazardous wastes to higher ground out of flood risk. This could also mean safely elevating chemicals to higher shelves or floors in your facility or raising tanks above floodwater level especially if they're reactive with water.

Make sure this doesn't present a fall-hazard to employees or increase the likelihood of a spill. Avoid stockpiling. Limit the amount of chemicals you keep on site.

A best management practice is to avoid having chemicals on-site until they are absolutely needed. If storage can't be moved make sure the containers are waterproof, and are secured so they can't float away or break open.

Install concrete anchors that can resist flood waters and secure tanks to anchors with straps. Check with your local Fire Marshal on securing above ground tanks.

Also, strengthen storage of your chemicals by providing secondary containment. Utilizing secondary containment and pallets is a best management practice. This would be suitable for hazardous wastes, non-hazardous materials, and/or non-hazardous chemicals.

When you know a storm is coming keep water out of your facility by using temporary barriers such as flood doors, shields, or flood gates. Sandbags are another option if these aren't available. Plug any floor drains as well.

Video clip: The marina has taken steps to flood-proof the facility by elevating its equipment, electrical panels, and chemical products, and by strengthening storage with secondary containment. These are our two above-ground tanks, one is gasoline and one is diesel fuel. They are double-walled. They're also on a solid concrete pad surrounded by concrete block.

[Reduce or Eliminate Chemicals](#)

Reduce or eliminate hazardous chemicals in your business to further prevent pollution and to generate less hazardous waste.

Emergency planning should include the management of chemicals on site, but also an analysis of whether all your chemicals are needed. If you can replace hazardous chemicals with ones that are less toxic, you will be reducing your liability and you may be able to reduce your regulatory requirements as well. Consider whether you can use less of the chemicals that might explode, react with water, or catch on fire. Whenever possible substitute a non-toxic or less toxic chemical in your process, or for sale to your customers.

Prevention Examples

Some pollution prevention examples of substituting less toxic chemicals include common degreasing solvents such as Trichloroethylene, methyl chloroform and Dichloromethane. Facilities that produce metal products often use these solvents for degreasing to clean parts. Instead, aqueous degreasers can be used in wash baths or perhaps closed loop vacuum degreasing. Companies that do painting, coating and finishing including architectural products and auto body work can switch to water-based coatings, and use ultrasonic spray cleaners rather than acetone and lacquer thinning products. Companies that use chlorine gas may be able to switch to UV, ozone or chlorine bleach.

One company in a neighboring state realized they were storing acid in large tanks located near a river, putting employees and the property at risk in the event of an emergency. They decided to change their process resulting in not needing to store the hazardous material and removed the tank.

A paint manufacturer in Massachusetts reformulated their product and eliminated several toxic chemicals such as replacing methanol with ethanol which is less poisonous and flammable. This company also developed an Integrated Contingency Plan – one unified plan meeting requirements of RCRA, the Clean Air Act, CERCLA and OSHA and pertaining to emergencies involving chemicals at the plant.

Case Studies

You can find a variety of case studies with Pollution Prevention alternatives on the EPA.gov Pollution Prevention webpage, including a P2 fact sheet on case studies on Safer Alternatives to solvent degreasing.

Step Four

Have an Emergency Plan and Be Ready to Use it

Step 4: Have an emergency plan and be ready to use it.

Once you understand your risks due to extreme weather and flooding, you can begin to create a plan for your business that will help you prepare and respond whether you are a large or small business. If you are a larger business and have facility and safety staff, create a disaster readiness plan; confirm that the plan was reviewed by engineering with an eye toward reduction of toxic chemicals. These

two areas need to work together to give you the most efficient outcome. Your plan should be readily available if you seek funding from FEMA or other sources to show that the business has taken measures to be more resilient.

Video clip: Knowing what chemicals, you have on site, training your employees, and having an emergency plan, will help your facility be prepared. When you get notified that a storm is coming up the coast, that's not the time to start planning. You need to have a plan in place and you need to review that like we do in the beginning of every season. Go through it, make sure that it's effective. Make sure that it's realistic. The entire base goes through the exercise of an incoming or upcoming hurricane, and it's done every year. The best way to prepare your business for a natural disaster is to have an emergency plan in place. We have storm preparation plans. We delegate certain employees to participate in the storm prep, that means getting any chemicals that are in low lying lands up to a higher elevation in an area where they won't get any contamination into the water.

Updates and Changes

You should work on your emergency plan, review it for any necessary changes, and update it annually. Keep in mind that updates should include any changes to chemicals, the facility, emergency coordinators and/or emergency equipment. After any event or incident that activates the plan, re-evaluate it to see what worked well and what could be done better.

You can find information and examples online to get an idea of how to create an emergency plan, but your plan should be tailored to your particularly facility and you may want to hire a professional. EPCRA Tier 2 filers who are in an area prone to flooding or sea level rise must update their emergency plans.

Training Employees

An emergency plan is most effective when your employees are trained at managing on site chemical risks and when you hold annual emergency drills. Be sure your staff including any new employees, knows how to properly respond to a spill.

Keep containment materials and spill kits onsite and easily accessible. Check safety equipment, emergency response equipment and first aid supplies on a

regular basis. Designate an individual to oversee preparedness planning whether your business is in a flood prone area or not.

Video clip: Training your employees on managing chemical risk is also essential. I have a safety team. We're all trained in spill training a couple times a year. These are our spill kits here. These are for in case any chemical spills, fuel spills, any type of spill at all. These are all placed throughout the marina strategically by the fuel dock, by the land fuel, by the recycling area, by various shops, and they're always ready to go. They're checked on a weekly basis.

Building Relationships

Build relationships with local emergency officials so they know what chemicals and hazardous wastes are at your facility. This allows them to respond better to an emergency, provide suggestions and avoid risks of exposure. You may want to invite them to visit your site to ensure they are familiar with your property and the chemicals you store.

Get to know neighboring businesses so you are aware of what chemicals they have on site since their spills can impact your property. Include them when meeting with local emergency officials.

Video clip: Making local emergency management officials aware of your operations and on-site chemicals will allow them to be better prepared in case of an emergency at your facility.

We had invited a local fire department in just because we felt that it was important that being first responders in case there was a fire or a spill that the fire department have the lay of the land, they'd have a map, that they just know where to go.

Other Things to be Aware of

Flood Insurance

Now that we've gone over the four steps to protect your business from chemicals being released during a storm or flood, there are a few other things including additional resources you will want to be aware of:

Investigate Flood insurance - No business is completely safe from potential flooding. Flood insurance can be the difference between recovery and financial devastation. Investigate the National Flood Insurance Program.

[Fact Sheets](#)

DEEP has created two fact sheets, one for businesses and a similar one for retailers and service businesses with information on managing chemicals. You can find downloadable links to these facts sheets under the resources tab located at the top right of this player.

There are a number of environmental regulatory programs that your business may need to comply with such as the Resource Conservation and Recovery Act (RCRA) and the Emergency Planning and Community Right to Know (EPCRA). There is more information on CT DEEP's website.

[Website Links](#)

We have compiled a list of websites that have additional information on DEEP's pollution prevention and regulatory programs, as well as flooding and resiliency resources. Download the Additional Resources document which contains links. Here is contact information if you have questions or need more information.

[DEEP Videos](#)

DEEP has created two short videos taken during site-visits at the U.S. Naval Subbase and a Connecticut marina. Both are located in a flood-prone area along CT's coast. Short clips of these have been included in the training.

You can watch the full videos and find out more about what actions are being taken towards becoming disaster resilient. They offer ideas and examples that you can incorporate at your site. They are also available on CT DEEP's P2 Chemical Management and Climate Risk webpage.

[Survey](#)

Severe weather and other climate risks are likely to occur more frequently in Connecticut and put your business, employees and the local community at risk. Please take a few minutes to complete a short survey.