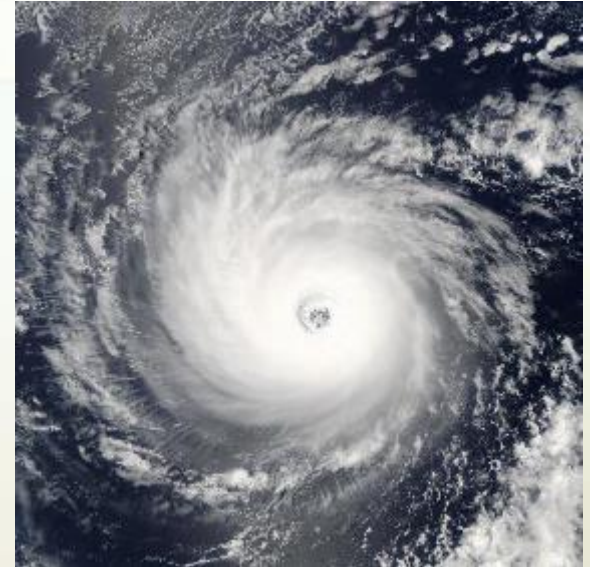


# Preparing for a Hurricane Employee Safety and Business Continuity

Jim Shelton, CAS  
Houston North Area Office

# Preparing for a Hurricane

- What do you think the differences between a hurricane and a flood could be to you and your business?



# Preparing for a Hurricane



# Preparing for a Hurricane





# Preparing for a Hurricane



Photo By Kevin Fujii/Houston Chronicle

# Preparing for a Hurricane

- Part 1 – Preparing for a Hurricane
- Part 2 – Cleanup your Business and Home
- Part 3 – Resources



# Preparing for a Hurricane

- Work conditions change drastically after a hurricane and other natural disasters
- After the hurricane response and recovery workers will face additional challenges and hazards while performing familiar and unfamiliar tasks



# Preparing for a Hurricane

- Things to consider include:
  - **Business Continuity** and **Hurricane Preparation** which involve having workable plans
  - **Recognizing Potential Hazards and Protecting your Employees** to ensure they have the training, tools, procedures, and equipment to recognize hazards and to work safely





# Preparing for a Hurricane

- Human Resources
  - How will a disaster impact your employees ability to return to work and how will your customers reach you or receive your goods and/or services



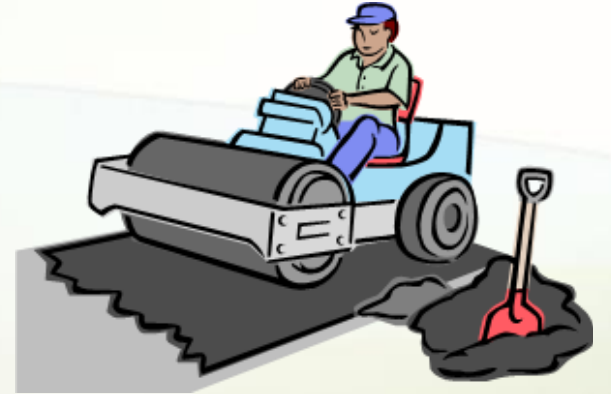
# Preparing for a Hurricane

- Physical Resources
  - Inspect facilities to assess how a hurricane will impact them. If needed have a professional engineer assess the facilities
- Develop procedures on how to protect your property inside and outside



# Preparing for a Hurricane

- Business Continuity
  - How will the disaster impact your ability to service your customers and your ability to obtain supplies and resources



# Emergency Action Plan

- OSHA may require an Emergency Action Plan under 1910.38 and 1926.35 which covers workplace emergencies
  - Preparing for a hurricane involves many things not addressed by an OSHA emergency action plan
- Some considerations....



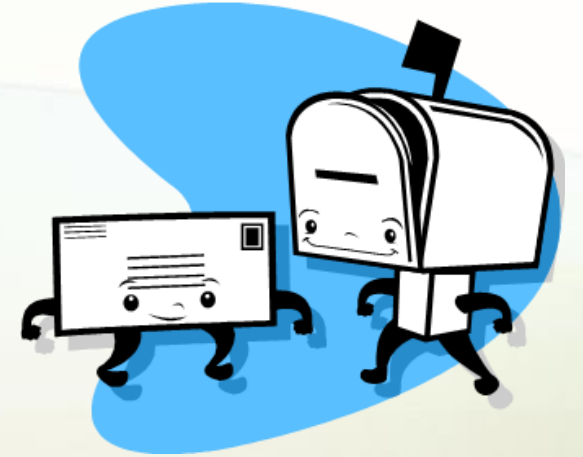


# Emergency Action Plan

- Company Location
- Alternate Location
- Emergency Contacts
- Emergency Plan Contacts
- Disaster Types
- Emergency Action Plan Team
- Mutual Aid Resources
- Critical Operations
- Suppliers/Contractors
- Evacuation/S.I.P./Shutdowns
- Communications
- Cyber Security/Computers
- Records Back Up
- Employee Contact Information
- Supplies
- Equipment/Machinery/Vehicles
- Voice/Data Communications
- Misc Resources
- Training
- Checklists

# Company Location

- Identify the company name, address, phone numbers on your plan
- Consider the scope of the plan. Satellite locations, job sites, projects and how they will be included or identified



# Alternate Location

- Establish a secondary location(s) where operations can be setup in the event your primary location(s) are damaged or unusable
- Ensure everyone knows where it is located including employees, suppliers, and customers



# Emergency Contacts

- Identify who the primary and secondary emergency manager is and how they can be contacted
- Identify emergency contacts such as 911, non-emergency police and fire, insurance provider, city, county, State, Federal agencies, law enforcement
- Establish procedures for identifying disaster response organizations, emergency medical facilities in your area





# Emergency Plan Team

- Identify who is on the emergency planning team and their contact information
  - CEO, HR, Safety, Finance, IT, Personnel...
  - Establish sub teams if needed
- Identify where they will go in the event of an emergency and identify their duties and tasks



# Disaster Types

- Identify the types of disasters you may be exposed to and ensure that plans account for their unique challenges
- Hurricanes, Fires, Earthquakes, Floods, Tornadoes...



# Mutual Aid Company/Organizations

- Identify companies and neighboring businesses who you will work with on your plan such as building management or to share equipment or other resources
- Get to know your neighbors and their resources and operations even if they can't provide assistance



# Critical Operations

- Establish a prioritized list of operations, staff, and procedures you need to start assessing and recovering from the disaster





# Suppliers/Contractors

- Identify companies and their contact information and numbers (including their alternate contact information) who you will need to obtain supplies, materials, services, and resources from
- Establish an agreement before hand on what can be provided
- Identify back up suppliers for each resource



# Evacuation/Shelter in Place/Shutdown

- Establish the actions to take for each type of situation and whether it's evacuation, S.I.P, or shutdown..
- Establish criteria on when each will be implemented and a warning and communication system to inform personnel
- Establish where to evacuate or S.I.P.
- These elements should already be covered in an OSHA Emergency Action Plan

# Evacuation/Shelter in Place/Shutdown

- For hurricanes there is a storm timeline and advance warning...
  - Develop actions to implement in advance...
    - Shutdown 72 hours prior?
    - Evacuate 48 hours prior?
  - Rotate employees home and work so they can prepare too
  - Consider evacuation orders, contra-flow etc. that may impact operations



# Communications

- Establish how the emergency plan will be communicated to employees, management, planning teams, job sites...
  - Training
- Establish how you will communicate to them in the event of a disaster...
  - Consider that phone service may not be available
- Consider and where you can obtain reliable information on the situation...



# Cyber Security/Computers/Software

- Determine how your computer hardware and software will be protected including loss of utilities, water damage...
- Establish or identify back up computer systems that can be accessed such as at your alternate locations
- After a disaster there are a lot of scams





# Records Back Up

- Identify paper and electronic records that need to be copied and/or backed up. Who will do it, and where the back up information will be maintained?
  - Payroll, Accounting, Billing, Emergency Action Plan, site maps, insurance policies, bank information..
    - Safety programs, SDSs...



# Employee Contact Information

- Have a list of employees and how to contact them
- Inform them how they can find out what to do and go after a disaster
- Identify critical employees and any skills they may have critical to recovery operations
  - What if they are affected by the disaster and can't be reached or come in?
  - Encourage employees to have a home plan



# Supplies

- Identify the supplies needed to prepare for a hurricane or other disasters to protect property and lives
- Ensure an adequate stockpile is obtained and stored in a safe accessible place
- Include safety equipment that may be needed



# Hazards



Exposed Electrical lines and Utilities



Hazard of Heavy Equipment



# Hazards



Health Hazards



Heat Illness Hazards



# Hazards



Mold Hazards



Water Borne Diseases

# Hazards



Food Borne Diseases



Animals and Insects

# Hazards



Generators



Traffic



# Hazards



Sharp and Jagged objects



Roof Damage and Fall Hazards

# Hazards



Unstable Structures



Unstable Structures



# Hazards



Storm Surge



Fallen Trees

# Equipment/Machinery/Vehicles

- Identify critical equipment, machinery and vehicles needed and ensure they are in working order and plan to have it stored in a safe, secure, accessible place
- Provisions for protecting unique critical equipment
- Identify critical equipment you may need to obtain during a recovery and identify them on your supplier list



# Voice/Data Communications

- Identify your voice, data, email, website, cable, DSL... how it will be used and protected
- Establish alternate means of communication to employees, suppliers etc.
  - Sometimes texts works when voice doesn't
  - Old plug in phones may work when wireless ones won't
  - Satellite phones?



# Training

- Ensure that all employees are trained on the emergency action plan, their duties and responsibilities
- Emphasize hurricane preparedness at tool box talks
- Ensure employees expected to respond to or clean up after a hurricane are trained on the hazards, tools, and equipment



# Checklists

- Develop as part of the plan checklists that identify duties and tasks to be accomplished
- Consider developing JSAs for various preparation and response tasks that identify the hazards, corrective actions, tools, training, and equipment needed to work safely





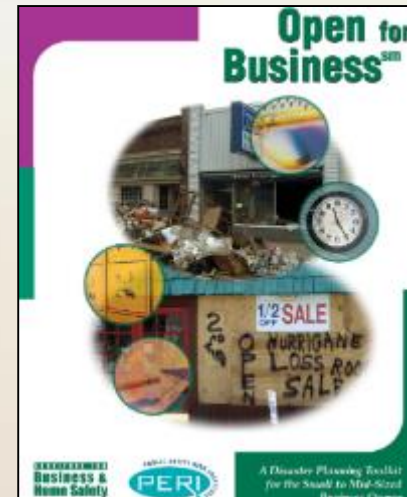
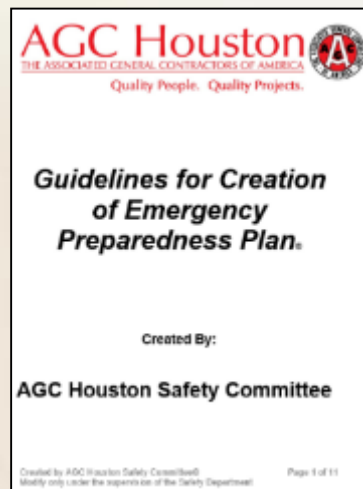
# Hurricane Harvey

- Hand Hygiene
  - There was a hospitalization and two deaths from necrotizing fasciitis e.g. the flesh eating bacteria during Hurricane Harvey
  - One death was to a worker who had been doing demolition work after the flooding
    - Proper PPE/Protective Gloves
    - Wash Hands with Soap and Water
    - Wound Care
  - Little things can be deadly
  - Preplan so you know what to do and how to do it safely.



# Resource Examples

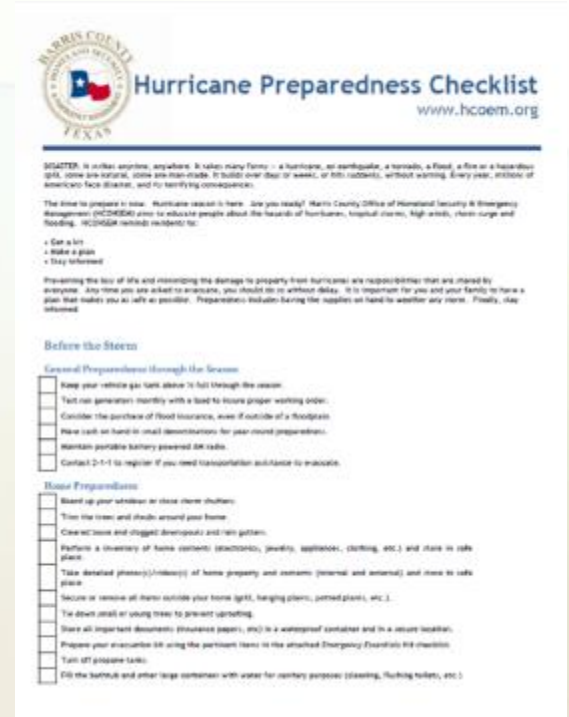
There are a number of examples out there to get started. Also check with your insurance company, trade associations, local, State, and Federal Emergency Management organizations...



Ready Business.	Business Emergency Plan
<b>Business Continuity and Disaster Preparedness Plan</b>	
<input type="checkbox"/> <b>PLAN TO STAY IN BUSINESS</b>	<input type="checkbox"/> <b>IF THIS BUSINESS IS NOT AVAILABLE OR NOT OPEN, HOW CAN YOU SURVIVE?</b>
Business Name	Business Name
Address	Address
City, State, Zip Code	City, State, Zip Code
Telephone Number	Telephone Number
Use the following person as your primary crisis manager and will serve as the company spokesperson in an emergency.	If the business is not available or not open, the person below will manage the crisis.
Business Emergency Contact	Business Emergency Contact
Telephone Number	Telephone Number
Alternate Telephone	Alternate Telephone
E-mail	E-mail
<input type="checkbox"/> <b>EMERGENCY CONTACT INFORMATION</b>	
Did P.I. 1 as an Emergency	
How Emergency Plan was Form	
Business Website	

# Resource Examples

- Everyone should have a home emergency preparation plan to ensure they are ready before an after the hurricane



**Harris County Office of Homeland Security & Emergency Management**  
**Hurricane Preparedness Checklist**  
[www.hcoem.org](http://www.hcoem.org)

**DISASTER** is a crisis anytime, anywhere. It takes many forms: a hurricane, an earthquake, a tornado, a flood, a fire or a hazardous spill, crime and violence, crime and terrorism. It could occur at any time, or it could be a warning. Every year, millions of Americans face disaster, and its terrifying consequences.

The time to prepare is now. Hurricane season is here. Are you ready? Harris County Office of Homeland Security & Emergency Management (HCOEM) aims to educate people about the hazards of hurricanes, tropical storms, high winds, storm surge and flooding. HCOEM reminds residents to:

- Get a kit
- Make a plan
- Stay informed

Preparing the best of life and minimizing the damage to property from hurricanes are responsibilities that are shared by everyone. Any time you are asked to evacuate, you should do so without delay. It is important for you and your family to have a plan that makes you as safe as possible. Preparedness includes having the supplies on hand to weather any storm. Finally, stay informed.

**Before the Storm**

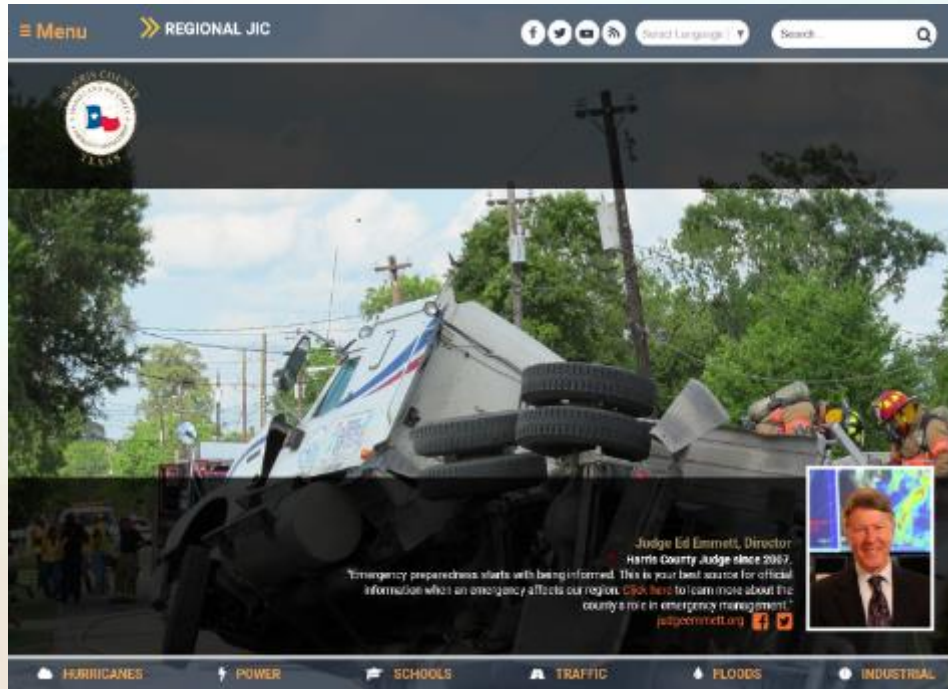
**General Preparedness Through the Season**

- ☐ Keep your vehicle gas tank above 1/2 full through the season.
- ☐ Test car generator monthly with a load to insure proper working order.
- ☐ Consider the purchase of flood insurance, even if outside of a floodplain.
- ☐ Have cash on hand in small denominations for your most preparedness.
- ☐ Maintain portable battery powered AM radio.
- ☐ Contact 2-1-1 to register if you need transportation assistance to evacuate.

**Home Preparedness**

- ☐ Blast up your windows or close them shutters.
- ☐ Trim the trees and shrubs around your home.
- ☐ Cover loose and chipped downspouts and rain gutters.
- ☐ Perform a inventory of home contents (electronics, jewelry, appliances, clothing, etc.) and store in safe place.
- ☐ Take detailed photo(s)/video(s) of home property and contents (interior and exterior) and store in safe place.
- ☐ Secure or remove all items outside your home (golf, hanging plants, potted plants, etc.).
- ☐ Tie down small or young trees to prevent uprooting.
- ☐ Store all important documents (insurance papers, etc.) in a waterproof container and in a secure location.
- ☐ Prepare your evacuation kit using the pertinent items in the attached Emergency Evacuation kit checklist.
- ☐ Turn off propane tanks.
- ☐ Fill the bathtub and other large containers with water for sanitary purposes (flushing toilets, etc.).

# Resources



<http://www.readyharris.org/>



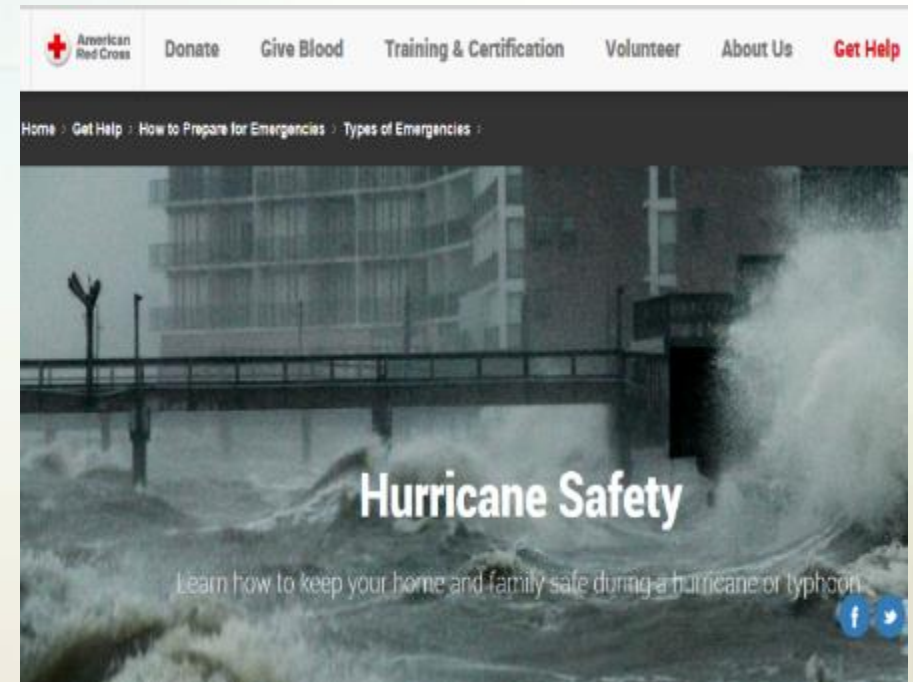
<http://readyhouston.wpengine.com/>



# Resources



<https://www.ready.gov/>



<http://www.redcross.org/get-help/how-to-prepare-for-emergencies/types-of-emergencies/hurricane>



# Resources

The National Institute for Occupational Safety and Health (NIOSH)

Promoting productive workplaces through safety and health research

Emergency Preparedness and Response Resource Directory

Natural Disaster/Extreme Weather Topics

Disaster Site Management

Emergency Responders

Terrorism Response

Tornado Cleanup and Response

Earthquake Cleanup and Response

Emergency Preparedness for Business

Storm, Flood, and Hurricane Response

Guidance for Emergency Responders in U.S. Virgin Islands and Puerto Rico

More Information and Resources for Emergency Responders in U.S. Virgin Islands and Puerto Rico

Guidelines for Fire Service Operations

Services CDC/NIOSH Provides to Employers and Employees

Hazards When Working

NIOSH • Emergency Preparedness and Response Resource Directory • Natural Disaster/Extreme Weather Topics

## EMERGENCY RESPONSE RESOURCES

f t +



### Storm, Flood, and Hurricane Response

Storm and flood cleanup activities can be hazardous. Workers and volunteers involved with flood cleanup should be aware of the potential dangers involved, and the proper safety precautions. Work-related hazards that could be encountered include: electrical hazards, Carbon Monoxide, musculoskeletal hazards, heat stress, motor vehicles, hazardous materials, fire, confined spaces and falls. Links to information about hazards associated with storm and flood cleanup can be found below. This information is intended to help employers and workers prepare in advance for anticipated response activities, and to prevent work-related injuries and illnesses in the field once rescue, recovery, and clean up begin.

#### On This Page

- CDC/NIOSH Hurricane 2017 Key Messages
- Medical Recommendations for Relief Workers and Emergency Responders
- Assessment Tools for Hurricane Response
- Air Quality
- Carbon Monoxide
- Cleanup Hazards
- Confined Spaces
- Cold Stress
- Disaster Site Management
- Electrical Hazards
- Falls
- Fire
- Generator Safety
- Hazardous Materials
- Health Care Workers
- Heat Stress
- Identifying and Handling Human Remains
- Motor Vehicles and Machine Safety
- Musculoskeletal Hazards
- Protective Equipment and Clothing
- Stairs and Fatigue
- Tree Removal / Chain Saws
- West Nile Virus
- Additional Resources

<https://www.cdc.gov/niosh/topics/emres/flood.html>

## Occupational Safety and Health Administration

ABOUT OSHA • WORKERS • EMPLOYERS • REGULATIONS • ENFORCEMENT • TOPICS • NEWS & PUBLICATIONS • DATA • TRAINING •

### Emergency Preparedness and Response

General • Natural Disasters/Weather • OTC/BRNE Incidents • Disease Agents/Toxins • Recent Emergencies • Resources/Guides •

## Emergency Preparedness and Response

Emergencies can create a variety of hazards for workers in the impacted area.

Preparing before an emergency incident plays a vital role in ensuring that employers and workers have the necessary equipment, know where to go, and know how to keep themselves safe when an emergency occurs. These

Emergency Preparedness and Response pages provide information on how to prepare and train for emergencies and the hazards to be aware of when an emergency occurs. The pages provide information for employers and workers across industries, and for workers who will be responding to the emergency.



<https://www.osha.gov/SLTC/emergencypreparedness/index.html>

# Resources



The screenshot shows the Texas Department of Insurance website. The header includes the TDI logo and navigation links for Insurance, State Fire Marshal, and Workers' Compensation. The main content area is titled "OSHCON: Occupational Safety and Health Consultation Program". It features a video thumbnail with the text "Helping You Create Safe Workplaces" and a circular seal for the OSHCON program. Below the video, there is a section titled "Useful resources" with a list of links and information.

**OSHCON: Occupational Safety and Health Consultation Program**

Helping You Create Safe Workplaces

The Occupational Safety and Health Consultation (OSHCON) program ([www.tdi.texas.gov/oshcon](http://www.tdi.texas.gov/oshcon)) is a free and confidential service available to private Texas employers through the Texas Department of Insurance, Division of Workers' Compensation. Our professional safety and health consultants across the state are available to help you identify and eliminate occupational hazards in your workplace, whether or not your company carries workers' compensation insurance.

Studies have shown that thousands of Texas employers experience fewer reported injuries and illnesses following their participation in the OSHCON program each year. OSHCON helps employers understand and comply with Occupational Safety and Health Administration (OSHA) health and safety requirements, and teaches them how to maintain safe and healthy workplaces.

**Useful resources**

- FAQs
- Request a consultation online
- SHARP - Safety and Health Achievement Recognition Program
- Current SHARP award recipients
- Job opportunities
- Occupational driving safety programs
- Free Safety@Work newsletter, Occupational safety and health matters, OSHA updates, training, and more
- Free safety and health publications Over 275 available in English and Spanish
- Free DVD loans 400x DVDs to check out - only cost is return postage and package insurance
- Safety after a storm
- OSHA 10 Hour Construction Course schedule (English/Spanish)
- Helpful safety and health links Free resources on other government and university web sites
- Texas Safety Summit
- Free return to work resources

<http://www.tdi.texas.gov/oshcon/>



The screenshot shows the OFB-EZ Business Continuity Planning page. The header includes the title "OFB-EZ®—Business Continuity Planning". The main content area is titled "Business Protection > OFB-EZ®—Business Continuity Planning". It features a search bar, a "Risks" section with a grid of icons, and a section titled "IBHS' Business Continuity Toolkit is OFB-EZ®". Below this, there is a video thumbnail for the OFB-EZ program and a description of the program.

**OFB-EZ®—Business Continuity Planning**

Business Protection > OFB-EZ®—Business Continuity Planning

Many businesses are not prepared to respond to a man-made or natural disaster. Small businesses are particularly at risk because they may have all of their operations concentrated in one location that is damaged or destroyed.

Business continuity planning is vital to survival and should not be put off indefinitely as you focus on today's challenges. It's important to devote enough time and attention to planning for the future, even when that future may involve events that are unpleasant to think about and, hopefully, not likely to happen. IBHS offers a variety of resources to assist with this important planning process.

**IBHS' Business Continuity Toolkit is OFB-EZ®**

OFB-EZ (Open for Business-EZ) is a free business continuity tool designed to help even the smallest businesses focus on planning for any type of business interruption, so they can quickly re-open and resume operations following a disaster. With its non-technical language and streamlined layout, any business owner can create an easy-to-use recovery plan tailored to the individual business, providing confidence if the worst occurs.

Business owners create their own business continuity plan using the program's eight modules.

<https://disastersafety.org/ibhs-business-protection/ofb-ez-business-continuity/>

# Disclaimer

- This information has been developed by an OSHA Compliance Assistance Specialist and is intended to assist employers, workers, and others as they strive to improve workplace health and safety. While we attempt to thoroughly address specific topics **[or hazards]**, it is not possible to include discussion of everything necessary to ensure a healthy and safe working environment in a presentation of this nature. Thus, this information must be understood as a tool for addressing workplace hazards, rather than an exhaustive statement of an employer's legal obligations, which are defined by statute, regulations, and standards. Likewise, to the extent that this information references practices or procedures that may enhance health or safety, but which are not required by a statute, regulation, or standard, it cannot, and does not, create additional legal obligations. Finally, over time, OSHA may modify rules and interpretations in light of new technology, information, or circumstances; to keep apprised of such developments, or to review information on a wide range of occupational safety and health topics, you can visit OSHA's website at [www.osha.gov](http://www.osha.gov).