



DISASTER PREPAREDNESS AND RECOVERY WORKBOOK

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Printing Industries of California



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DISASTER PREPAREDNESS AND RECOVERY WORKBOOK

Introduction

Printing Industries of California has developed the *Disaster Preparedness and Recovery Workbook* to help member companies prepare for an unanticipated disaster and to resume normal business operations as quickly as possible.

Webster's *New World Dictionary* defines a disaster as a "sudden misfortune that results in the loss of life, property, etc. or that is ruinous to an undertaking." Disasters are usually categorized by their origin: natural or man-made, and they may occur in many forms.

Historically, most recorded disasters are natural disasters. These include events such as earthquakes, hurricanes, tornadoes, floods, wildfires, and landslides. Recently man-induced disasters have taken center stage—terrorist attacks, nuclear accidents, chemical spills, man set fires, workplace violence, power blackouts, and industrial accidents.

The one element that all of these events share —natural or man-made—is their unpredictable occurrence and severity.

Because of the magnitude of disasters such as the 9/11 attacks, the tsunami in Thailand, and hurricane Katrina, disaster preparedness has become a prominent business concern. Nationwide, organizations of every size now see the importance of identifying the steps needed to ensure that their operation survives, with minimal disruption, if a disaster strikes.

The key objectives of the disaster recovery or business continuity plan is to

- establish management succession and emergency powers;
- provide for the safety and well-being of people on the premises at the time of a disaster;
- minimize immediate damage and losses;
- continue critical business operations;
- minimize the duration of a serious disruption to operations and resources (both information processing and other resources);
- facilitate effective co-ordination of recovery tasks;
- reduce the complexity of the recovery effort;
- identify critical lines of business and supporting functions.

Although the probability of a major disaster is remote, the consequences of such an occurrence could be catastrophic, in terms of both operational and financial impact.

Accordingly, top management should understand the implications of such an occurrence and assign on-going responsibility for recovery planning to an employee who takes this essential task seriously.

This *Disaster Preparedness and Recovery Workbook* is designed to provide a template for you to establish your own disaster, management, and recovery plan.

The *Workbook* is divided into **Three Sections**: plan components and instructions, fill-in forms, and appendix.

Section One explains how to complete the written program and document the steps you need to take to develop your disaster recovery program.

Section Two provides key forms which can be used to establish your written program. It provides a system and method for identifying and organizing the components of your disaster recovery program.

Section Three provides formulas for computing computer downtime and commercial property insurance coverage.

The method used to develop the *Workbook* involved the following steps:

- Review of model plans of both printing companies and companies from other business sectors.
- Observations of work-flow in typical printing shop to isolate those operations that may be affected by a natural or man-produced disaster.
- Interviews with employees and supervisors to determine safe work practices, key equipment, workflow processes, computer hardware, application software, and data recovery necessary to meet the challenge of an industrial disaster and assure a safe workplace.

Based on this method, the *Workbook* was developed for use by individual companies in creating their disaster recovery or business continuity plan.

In using this workbook, a graphic arts company should be able to isolate the components needed to establish an effective program within a reasonable investment of time and resources.

Produced for Printing Industries of California by Gerald M. Bonetto, Ph.D and Marcos Uribe.

In the following pages you will find a template to prepare your disaster recovery plan. Instructions and easy to follow steps along with sample forms will make the writing of a basic recovery or business continuity plan simple.

Section 1

Create Your Disaster Preparedness and Recovery Plan

Instructions

Pages 1 – 11 instruct you on how to fill out the forms on **pages 12 to 32**. When you have completed these forms, you will have a framework for a disaster recovery plan for your company.

Of course, each company's management structure, equipment, processes, and clients are distinct. Therefore, you will likely have to supplement the information in the *Workbook* to fit your needs. Nonetheless, this template will structure and take you well on the way to completing your disaster recovery plan.

PART I

Emergency Numbers (Page 12)

This is probably the most important thing to include in your disaster preparedness and recovery plan. The emergency numbers you should list are as follows:

- Police Department
- Fire Department
- Power Company
- Gas Company
- Telephone Company
- Local Hospital/Clinic
- Local Municipality
- Local Media
- Insurance Company
- Hazardous Material Spills

You will find the emergency numbers for hazardous material spills by district on pages 31 and 32.

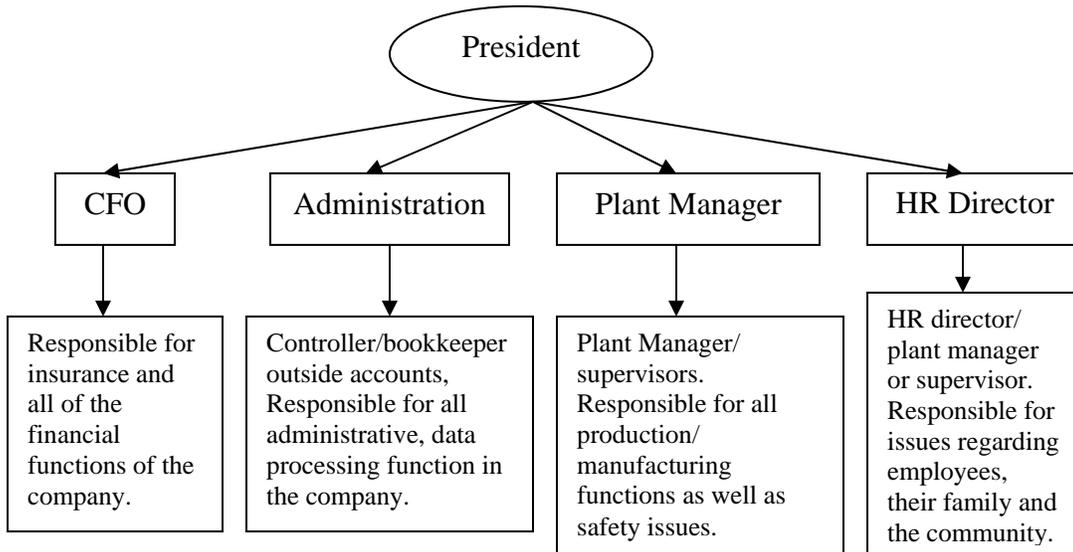
You may want to post emergency numbers in the different departments as well as include them in your disaster preparedness and recovery program.

Identify Management Team (Page 13)

In [page 13](#) you will find a worksheet to list key personnel suitable for your management team. In this section, the purpose is just to identify those employees who might be designated as part of the management team responsible for responding to any potential disaster. Once this worksheet is completed, you will then be able to fill out Part II.

The number of individuals you need on your team depends on the number of employees you have working for you (e.g., if you have 100 employees, you might identify 10 employees on your team to help organize the plan).

Perhaps the best way to identify team members is by department. An organizational chart is a good way to identify key personnel. Here is a simple example.



PART II

Team Directory (Page 14-15)

Once you have identified members of your disaster response team, you can then designate who will be the team leader (first person in charge), and in case that person is not available, designate a second team leader, and so forth.

A directory will be set up as a phone tree on which the team leader sits at the top. The directory should include the following information:

- Name
- Position

- Home phone
- Cell phone
- Pager
- Address
- For emergency (who to contact and what relation to that person)

PART III

Employee Directory (Page 16)

This list will make it easy for you to contact your employees, since they and their families want to know that everyone is safe and under what conditions your company will continue to operate. If you don't quickly contact your employees or their families, rumors will begin to circulate and you will have to spend considerably more time in managing them.

PART IV

Inventory (Page 17 -20)

In this section, list the equipment and inventory in your facility. The easiest way to accomplish this task is to assign each member of the team responsibility for his or her function or department. It's also recommended to have a video tape of the equipment you own and their serial numbers.

This list will include the following, among other, items:

- Manufacturing equipment
- Administrative equipment
- Inventory (e.g., paper, film, and other supplies)
- Work in process
- Archived digital records
- Job tickets
- Video tape of the entire facility (and where video is kept)

In mid-sized to large companies, this list may be too extensive or too time consuming to list here. In those cases, you should attach or references where those lists are.

Computer Back-Up (Page 21)

Create an information tape back-up in servers or individual PCs.

- Perform daily back up tape
- Test back up tapes for data integrity
- Give somebody responsibility for the daily tape
- Store the daily tape outside the facility with a professional data storage company
- Always store it in a metal container with a serial number
- Have control of the pick-up authorization with the form sample in [page 21](#)

PART V

Customer Directory (Page 22)

This will help you get in touch with your customers to notify them of the incident and assure them that the business will continue to operate. Moreover, for all of those customers that have work in process, you will have to explain the situation and may have to devise an alternative plan, with their help, to complete their job.

To keep it manageable, the customer list might include only those customers that you have done business with over the past year to eighteen months.

PART VI

Supplier Directory (Page 23)

Suppliers need to be contacted and reassured as to your status to operate and your need of support. Supplies may need to be redirected to another location or terms of sale may have to be renegotiated because of the disaster.

Limit this list to current, active suppliers.

PART VII

Rank Potential Disasters (Page 24)

An important exercise is to determine the risk—natural or man-made--and the likelihood of your company suffering from a disaster from that risk. Use the checklist below as a starting point. (*Table 1.1 in PART VII of the fill out forms*)

1. Type of disaster.
 - Fire
 - Computer virus
 - Electrical surge/power outage
 - Earthquake

- Chemical spill
 - Workplace violence
 - Industrial accident
2. Human impact.
 - Determine the potential damage the disaster can cause to your personnel
 3. Property impact.
 - Determine the potential damage the disaster can cause to your property
 4. Business impact.
 - Determine what is the potential loss to business for disaster

PART VIII

List of Hazardous Chemicals (Page 25)

Many companies use chemicals that the State of California considers as either hazardous or toxic; this is why you submit a Hazardous Material Storage and Emergency Response Plan (often referred to as the AB 2185 plan) to your local Certified Unified Program Agency (CUPA).

Hazardous Material Storage. You likely already have this information in a folder or binder in your office. However, rather than search it out in case of an emergency, it would be beneficial to attach a list of all chemicals currently in the facility as well as attach a copy of the emergency response plan and facility layout to the disaster recovery plan. Or, if you prefer, you can list every chemical currently being used in [Section VIII, Table 1.2 on page 25](#)

If you haven't yet completed an emergency response plan and facility layout, there is an example on [page 11](#), which will show you the particulars of such a plan. The material inventory and site map identify the hazardous materials being used and where they are stored. In case of fire, this information enables the fire department to know the place of storage and type of chemicals in the facility.

PART IX

Business Evaluation (Page 26)

- This requires the action of the CFO, CEO and the company's insurance agent. Ask yourself these questions:
 - How much would it cost me to close my establishment for a day, a week, or a month?
 - What will be the financial need for the business?

- Would the insurance provide the necessary working capital?
- Do not make mistakes assuming that the insurance agent knows all about your business
- Set a cost per day (wages, average work in process, payments, etc)

PART X

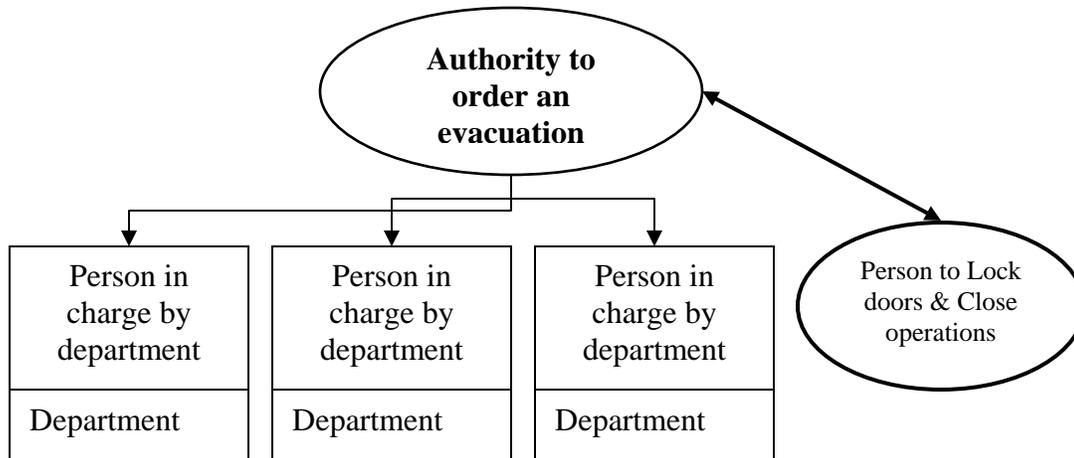
Evacuation (Page 27)

Some disasters will require employees to leave the workplace quickly. The ability to evacuate workers, customers and visitors effectively can save lives. People who plan and practice how they will get out of the building in an emergency are better prepared than those who do not have an exit strategy.

- Assign people to the emergency evacuation team. These individuals must be familiar with the building evacuation plan, floor layouts, and the location and use of fire equipment.
- Determine the method of announcing an evacuation. If a fire alarm system exists, the pull stations will be used. If a public address system exists, it can be used to announce “CODE RED” followed by the location of the emergency. In a small area, a distinct sound (whistle, bell, etc.) or an announcement may be used.
- The evacuation team is responsible for overseeing the orderly evacuation of their work area upon notification of an alarm. They will receive and dispatch information and instructions, oversee the evacuation of all personnel from their area if required to do so, and make sure that any person with a disability is assigned a co-worker who agrees to stay with the person with the disability.

The Evacuation Team

1. If feasible, develop a system by department for knowing who is in your building, including customers and visitors, in case there is an emergency.
2. Decide in advance who has the authority to order an evacuation. Create a chain of command so that others are authorized to act in case your designated person is not available. If local officials tell you to evacuate, do so immediately.
3. Identify who will shut down critical operations and lock the doors, if possible, during an evacuation.
4. Train others who can serve as a back-up if the designated person is unavailable.



The corresponding fill out form in [Section 2](#) must be filled according to the organizational diagram seen above, where only key team members are set; there will be another form in the same page where additional trained personnel will be listed

Items to include on Route Map

1. Locate and make copies of building and site maps with critical utility and emergency clearly marked.
 - Identify and clearly mark entry-exit points both on the maps and throughout the building.
 - Post maps for quick reference by employees.
 - Make copies available to first responders or other emergency personnel.
2. Plan two ways out of the building from different locations throughout your facility.
3. Consider the feasibility of installing emergency lighting or plan to use flashlights In case the power goes out.
4. Designate an assembly site.
 - Pick one location near your facility and another in the general area in case you have to move farther away.
 - Talk to your people in advance about the importance of letting someone know if you cannot get to the assembly site or if you must leave it.
 - Be sure the assembly site is away from traffic lanes and is safe for pedestrians.
5. Try to account for all workers, visitors and customers as people arrive at the assembly site.
 - Take a head count.
 - Use a prepared roster or checklist.
 - Ask everyone to let others know if they are leaving the assembly site.

6. Determine who is responsible for providing an all-clear or return-to-work notification.
7. Conduct employee training, exercises and drills including procedures for evacuating high-rise buildings on a regular basis.
8. Plan for people with disabilities who may need help getting out in an emergency.
9. if you rent, lease or share space with other businesses make sure the building owner and other companies are committed to coordinating and practicing evacuation procedures together.

How to Establish Evacuation Routes

Ensure that your evacuation routes and emergency exits meet the following conditions:

- Clearly marked and well lit
- Wide enough to accommodate the number of evacuating personnel
- Unobstructed and clear of debris at all times
- Unlikely to expose evacuating personnel to additional hazards

You can view a sample of the Evacuation Route map in [page 11](#)

How often do You Need to Train Your Employees?

- Review your plan every 6 months
- With new employees
- When introducing new equipment, material
- When changes in the layout of your facility
- When you update your emergency procedures

What Type of Training do My Employees Need?

- Individual roles and responsibilities
- Threats, hazards and protective actions
- Notification warnings and communication procedures
- Means for locating family members in an emergency
- Emergency response procedures
- Evacuation, shelter, and accountability procedures
- Location and use of common emergency equipment
- Emergency shutdown procedures
- First aid procedures

PART XI**Emergency Preparedness Kit (Pages 28-29)**

Your company's emergency kit should be stocked based on an assessment of your company's needs. However, do not include candles, weapons, toxic chemicals, or prescription drugs in your kit.

In a manufacturing setting, the emergency preparedness kit provides essential items an employee will need after a disaster. The Red Cross online store offers both a regular and deluxe (higher quality content material) model of the emergency preparedness kit. For more information, check out the Red Cross online store at www.redcross.org.

Among items to be included in the kit are the following:

1. Flashlight. Use the flashlight to find your way if the power is out. Do not use candles or any other open flame for emergency lighting.
2. Battery-powered Radio. News about the emergency may change rapidly as events unfold. You also will be concerned about family and friends in the area. Radio reports will give information about the areas most affected.
3. Water. Keep plenty of water available, or more if you are on medications that require water or that increase thirst. Store water in plastic containers, such as soft drink bottles. Avoid using containers that will decompose or break, such as milk cartons or glass bottles.
4. First Aid Supplies. Keep your first aid supplies stocked. Here are some items to include:
 - Absorbent Compress 5x9 Dressing
 - Adhesive Bandages (Assorted Sizes)
 - Adhesive Cloth Tape 5 yds/1"
 - Antibiotic Ointment Packets (approx 1g)
 - Antiseptic Wipe Packets
 - Packets of Aspirin (162mg)
 - Pair of Latex Gloves (Size Large)
 - Scissors
 - Roller Bandage 3"
 - Sterile Gauze Pads 3x3
 - First Aid Instruction Information

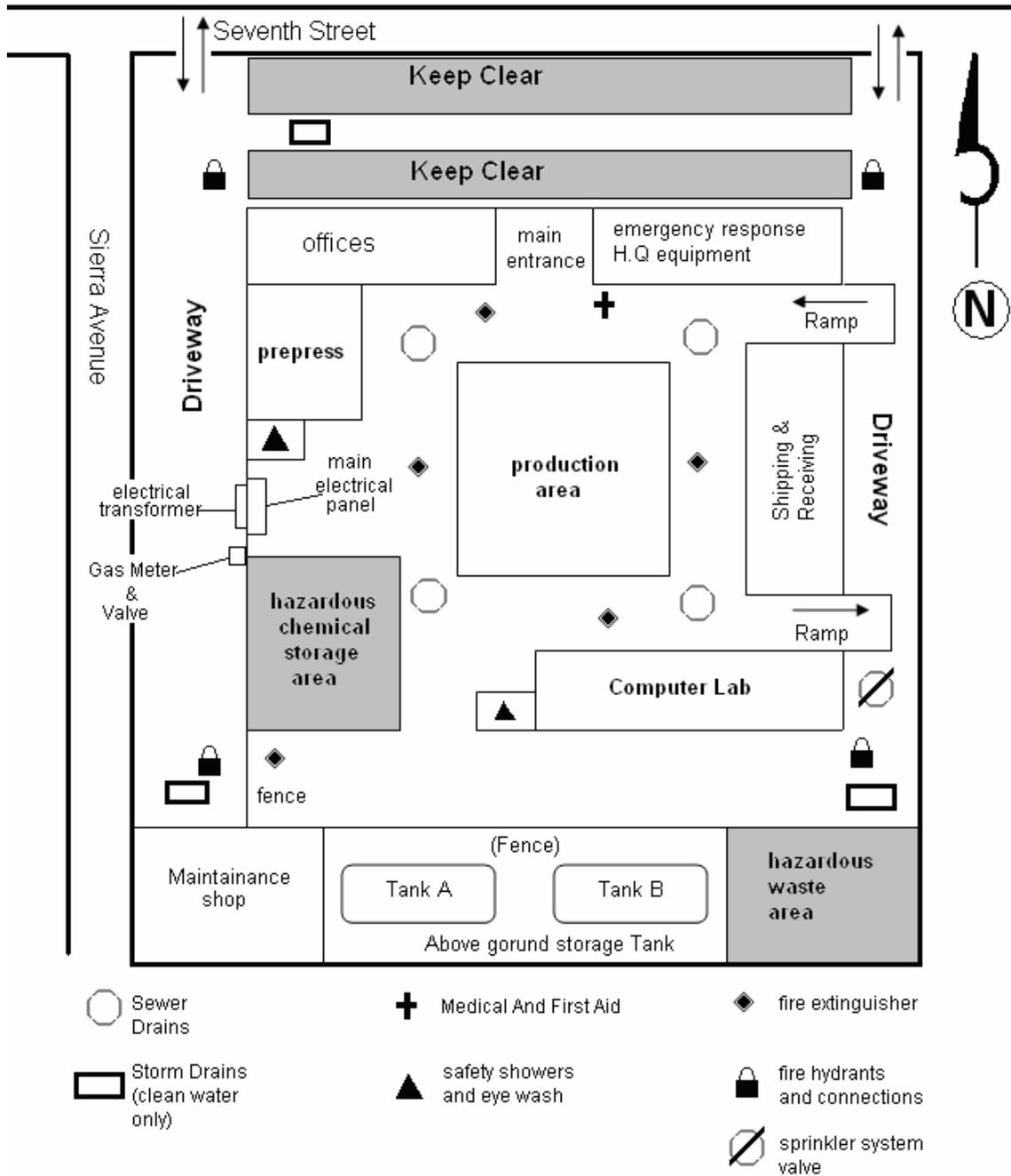
You should work down the checklist of items on pages [28](#) and [29](#) to tailor the emergency preparedness kit to your company needs.

PART XII

Disaster Reaction: The Immediate Aftermath ([Page 30](#))

Every disaster is unique, but the intention of this checklist is to suggest what you should do in the immediate aftermath. Keep it readily available, so that the emergency response team can work through the checklist to make sure all bases—as addressed in previous pages of the workbook—are covered.

Facility Layout Sample Map



Section 2

PART I. Emergency Numbers

<u>Emergency Numbers in the Area</u>	
Company Name:	_____
Company Address and Directions:	_____ _____
Police Department:	_____
Fire Department:	_____
Power Company:	_____
Gas Company:	_____
Phone Company:	_____
Local Hospitals/Clinic:	_____
Local Municipality:	_____
Local Media:	_____
Insurance Company:	_____
Local Hazmat Office:	_____
<u>Other Emergency Numbers:</u>	

PART II. Team Directory

<u>Team Leader</u>		
Name:		
Address:		
Home:		
Cell phone:		
Pager:		
<u>In case of Emergency:</u>		
Contact:		
Relation:		
Address:		
Phone:		
<u>The Team Leader Calls the Following:</u>		
<u>Phone Tree</u>		
<i><u>Plant Manager</u></i>		
Name:		
Home:	Cell phone:	Pager:
In case of Emergency:		
Contact:	Relation:	Phone:
Address:		
<i><u>Personnel Manager</u></i>		
Name:		
Home:	Cell phone:	Pager:
In case of Emergency:		
Contact:	Relation:	Phone:
Address:		
<i><u>Chief Financial Manager</u></i>		
Name:		
Home:	Cell phone:	Pager:
In case of Emergency:		
Contact:	Relation:	Phone:
Address:		
<i><u>Maintenance Manager</u></i>		
Name:		
Home:	Cell phone:	Pager:
In case of Emergency:		
Contact:	Relation:	Phone:
Address:		

PART II. Other Team Contacts

Name:	Responsibility:	
Home:	Cell phone:	Pager:
For Emergency:		
Contact:	Relation:	Phone:
Name:	Responsibility:	
Home:	Cell phone:	Pager:
For Emergency:		
Contact:	Relation:	Phone:
Name:	Responsibility:	
Home:	Cell phone:	Pager:
For Emergency:		
Contact:	Responsibility:	Phone:
Name:	Responsibility:	
Home:	Cell phone:	Pager:
For Emergency:		
Contact:	Relation:	Phone:
Name:	Responsibility:	
Home:	Cell phone:	Pager:
For Emergency:		
Contact:	Relation:	Phone:
Name:	Responsibility:	
Home:	Cell phone:	Pager:
For Emergency:		
Contact:	Relation:	Phone:
Name:	Responsibility:	
Home:	Cell phone:	Pager:
For Emergency:		
Contact:	Relation:	Phone:
Name:	Responsibility:	
Home:	Cell phone:	Pager:
For Emergency:		
Contact:	Relation:	Phone:

PART III. Employee Directory

Name:	Position:	
Home:	Cell phone:	Pager:
For Emergency:		
Contact:	Relation:	Phone:
Name:	Position:	
Home:	Cell phone:	Pager:
For Emergency:		
Contact:	Relation:	Phone:
Name:	Position:	
Home:	Cell phone:	Pager:
For Emergency:		
Contact:	Relation:	Phone:
Name:	Position:	
Home:	Cell phone:	Pager:
For Emergency:		
Contact:	Relation:	Phone:
Name:	Position:	
Home:	Cell phone:	Pager:
For Emergency:		
Contact:	Relation:	Phone:
Name:	Position:	
Home:	Cell phone:	Pager:
For Emergency:		
Contact:	Relation:	Phone:
Name:	Position:	
Home:	Cell phone:	Pager:
For Emergency:		
Contact:	Relation:	Phone:

**Pick Up Authorization
Computer Back-Up Tape Log**

Data Storage Company: _____ Phone # _____

Company Name: _____ Phone # _____

	CONTAINER #	RETURN DATE	DESCRIPTION		CONTAINER #	RETURN DATE	DESCRIPTION
1				23			
2				24			
3				25			
4				26			
5				27			
6				28			
7				29			
8				30			
9				31			
10				32			
11				33			
12				34			
13				35			
14				36			
15				37			
16				38			
17				39			
18				40			
19				41			
20				42			
21				43			
22				44			

PART V. Customer Directory

Customer:			
Company:	Address:		
Phone Number:	Fax:	E-Mail:	
Customer:			
Company:	Address:		
Phone Number:	Fax:	E-Mail:	
Customer:			
Company:	Address:		
Phone Number:	Fax:	E-Mail:	
Customer:			
Company:	Address:		
Phone Number:	Fax:	E-Mail:	
Customer:			
Company:	Address:		
Phone Number:	Fax:	E-Mail:	
Customer:			
Company:	Address:		
Phone Number:	Fax:	E-Mail:	
Customer:			
Company:	Address:		
Phone Number:	Fax:	E-Mail:	
Customer:			
Company:	Address:		
Phone Number:	Fax:	E-Mail:	
Customer:			
Company:	Address:		
Phone Number:	Fax:	E-Mail:	

PART VI. Suppliers Directory

Name:	Kind of Supplies:	
Supplying company:	Address:	
Phone Number:	Fax:	E-mail:
Name:	Kind of Supplies:	
Supplying company:	Address:	
Phone Number:	Fax:	E-mail:
Name:	Kind of Supplies:	
Supplying company:	Address:	
Phone Number:	Fax:	E-mail:
Name:	Kind of Supplies:	
Supplying company:	Address:	
Phone Number:	Fax:	E-mail:
Name:	Kind of Supplies:	
Supplying company:	Address:	
Phone Number:	Fax:	E-mail:
Name:	Kind of Supplies:	
Supplying company:	Address:	
Phone Number:	Fax:	E-mail:
Name:	Kind of Supplies:	
Supplying company:	Address:	
Phone Number:	Fax:	E-mail:
Name:	Kind of Supplies:	
Supplying company:	Address:	
Phone Number:	Fax:	E-mail:
Name:	Kind of Supplies:	
Supplying company:	Address:	
Phone Number:	Fax:	E-mail:

PART VII. Determine Risk

(Table 1.1)

Rank 1 to 5 in each box.

Type of Emergency	Probability	Human Impact	Property Impact	Business Impact	total
Electrical surge/power outage					
Computer virus					
Fire					
Workplace violence					
Chemical spills					
Flood					
Terrorist attacks					
Hurricane					

- When you finish filling up the boxes, add each row, and, at the end place the score in the total box.
- The maximum score is 20 and the minimum is 0.
- The susceptibility for each type of emergency is given in the total case box; the higher the score the higher the propensity for your establishment from suffering a disaster.
- Your plan should be done based on the kind of disaster your establishment is most susceptible to.

PART IX. Business Evaluation

Set an approximate average of your company's operating cost

- Wages
- Income
- Work in process (cost of supplies in your establishment)
- Payables, etc.

Business Evaluation	Day	Month	Year
Wages			
Workers Compensation			
Benefits			
Rent			
Insurance			
Equipment			
Work In Progress			
Supplies			
Payables			
Total			

Part XI. Emergency Supply Kit Checklist

*Check list***1. Water & Food**

- **Water**
 - Keep at least a three-day supply of water per person; each person will need a gallon each day
 - If you live in a warm weather climate more water may be necessary
 - Store water tightly in clean plastic containers such as soft drink bottles

2. First Aid Kit

In any disaster, an employee may be cut, burned or suffer other injuries. If you have these basic supplies you are better prepared to help.

- **Things You Should Have:**
 - Two pairs of sterile gloves
 - Sterile Absorbent Compress 5x9 Dressing
 - Soap and Antiseptic Wipe Packets
 - Antibiotic ointment to prevent infection
 - Burn ointment to prevent infection
 - Adhesive bandages in a variety of sizes
 - Eye wash solution to flush the eyes
 - Thermometer
 - Adhesive Cloth Tape 5 yds/1"
 - Adhesive Bandages (Assorted Sizes)
 - First Aid instruction information
 - Non-prescription drugs (aspirin or non-aspirin pain reliever, anti-diarrhea medication, and antacid, laxative)
 - Roller Bandage 3"
 - Sterile Gauze Pads 3x3

3. Other Items

- Cell phone
- Scissors
- Tweezers
- Petroleum jelly
- Battery-powered radio
- Flashlight
- Extra batteries
- Whistle to signal for help
- Dust mask or cotton t-shirt, to help filter the air
- Wrench or pliers to turn off utilities
- Paper towels

- Fire extinguisher
- Matches in a waterproof container
- Signal flare
- Feminine supplies
- Personal hygiene items
- Disinfectant

Part XII. Emergency Action Checklist

Sound the Alarm

- Contact the authorities.
- Shut down power, gas, water lines.
- Evacuate the building.
- Reroute Telecommunications.
- Establish security for building and records.

Analyze the Loss (with the team)

- By department.
- Equipment loss.
- Work in progress.
- Records/Customers files.
- Report to CEO/CFO.

Contact Customers

- Utilize Customer Directory.
- Prepare script to answer major questions.
 - What was lost
 - Time to recovery
 - Alternative plans

Contact Insurance Provider

- Review the loss.
- Prepare loss documents.

Contact suppliers

- Are work in process supplies necessary?
- Inventory.
- Financial Arrangements.
- Will alternative production source be necessary?

Contact Employees

- Are they working? What hours?
- How will payroll be handled? Benefits?
- Contact family members.

Contact the public

- People need to know that you are still in business.
- Contact PIASC.
- Contact PR firm.
- Contact Media.
- Contact Neighbors.

Emergency Numbers For Hazardous Material Spills

<p>Concord 1450 Enea Circle, Suite 525, Concord 94520 (925) 602-6517 fax (925) 676-0227</p>	<p>Foster City 1065 East Hillsdale Blvd., Ste. 110, Foster City 94404 (650) 573-3812 fax (650) 573-3817</p>	<p>Fremont 39141 Civic Center Dr. Suite 310 Fremont, CA 94538-5818 510-794-2521 fax 510-794-3889</p>
<p>Fresno 2550 Mariposa Street, Ste. 4000, Fresno 93721 (559) 445-5302 fax (559) 445-5786</p>	<p>Los Angeles 320 West 4th Street, Ste. 850, Los Angeles 90013 (213) 576-7451 fax (213) 576-7461</p>	<p>Modesto 1209 Woodrow, Ste. C-4 Modesto 95350 (209) 576-6260 fax (209) 576-6191</p>
<p>Monrovia 750 Royal Oaks Drive, Ste. 104 Monrovia 91016 (626) 256-7913 fax (626) 359-4291</p>	<p>Oakland 1515 Clay Street, Ste. 1301, Oakland 94612 (510) 622-2916 fax (510) 622-2908</p>	<p>Redding (field office) 381 Hemsted Drive, Redding 96002 (530) 224-4743 fax (530) 224-4747</p>
<p>Sacramento 2424 Arden Way, Ste. 165, Sacramento 95825 (916) 263-2800 fax (916) 263-2798</p>	<p>San Bernardino 464 W. 4th St., Ste. 332, San Bernardino 92401 (909) 383-4321 fax (909) 383-6789</p>	<p>San Diego 7575 Metropolitan Drive, Ste. 207, San Diego 92108 (619) 767-2280 fax (619) 767-2299</p>
<p>San Francisco 121 Spear Street, Ste. 430, San Francisco 94105 (415) 972-8670 fax (415) 972-8686</p>	<p>Santa Ana 2000 E. McFadden Ave., Ste 122, Santa Ana 92705 (714) 558-4451 fax (714) 558-2035</p>	<p>Santa Rosa 1221 Farmers Lane, Ste. 300, Santa Rosa 95405 (707) 576-2388 fax (707) 576-2598</p>

<p>Torrance 680 Knox Street, Ste. 100, Torrance 90502 (310) 516-3734 fax (310) 516-4253</p>	<p>Van Nuys 6150 Van Nuys Boulevard, Ste. 405, Van Nuys 91401 (818) 901-5403 fax (818) 901-5578</p>	<p>Ventura (field office) 1000 Hill Road, Ste. 110, Ventura 93003 (805) 654-4581fax (805) 654-4852</p>
<p>West Covina 1906 West Garvey Ave So, Ste. 200, West Covina 91790 (626) 472-0046 fax (626) 472-7708</p>		

High Hazard Compliance Unit

<p>Santa Ana 2000 East McFadden Avenue, Suite 111, Santa Ana 92705 (714) 567-7100 fax (714) 567-6074</p>	<p>Oakland 1515 Clay Street, Suite 1303, Oakland 94612 (510) 622-3009 fax (510) 622-3025</p>
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Section 3

Part I. Computer Downtime

Today most printers have computer based programs to process information. Computers now are vital to most industries. Accordingly, the loss of computer information or network connection can be disastrous. That is why it's imperative that every company that process information by computer should have an alternative plan during computer downtime.

Computer downtime can result from numerous circumstances. Viruses and spyware are waiting to infect your PC through the internet, email and even commonly used applications. Internet hacking, identity theft and other cyber crimes are all on the rise. Compatibility issues and missing or corrupt drivers plague both hardware and software alike. And problems with the installation and use of everyday programs can cause no end of headaches.

Step 1. Identify the Value of information technologies in terms of business goals by calculating computing costs. Here's an outline of how to make the calculations:

1. Estimate Potential Downtime (In addition to the direct Downtime caused by the disaster, additional Downtime may have to be considered for the following elements of Restoration and Recovery of Systems)

- Determine the amount of time necessary to access interim hardware, software, communication lines & expertise if needed. Possible issues are: Accessing "Hot Spares" or Cold Spares for critical equipment; Does a maintenance contract exist to guarantee availability of replacement or technical expertise on site within "x" hours
- How long will it take to restore functional System, Network ,Applications and User

Calculate the cost of computer downtime of your company

CDT= Cost of Down Time

A = Average number of users logged in

W = Average Wage of those Users

V = Overhead

T = Time down

$$\text{CDT} = \text{A} \times (\text{W} + \text{V}) \times \text{T}$$

Calculate the cost of data loss

CDL = cost of data loss

C = Average number of creative people
required to re enter data

W = Average wage of creative people

V = Overhead costs

T = Time down

$$\text{CDL} = C \times (W+V) \times T$$

Calculate the loss of orders lost

ORV = Average Value of orders

R = Rate of orders

T = Time system down

ORL = Average cost of orders lost

$$\text{ODL} = R \times T \times \text{ORV}$$

Step 2. Identify potential risks and the need for off-site replacement of computer service

1. Identify Disasters resulting in loss of use of CPU and box Fire

- Terrorism - bombs and viruses
- Hurricane/Tornado Earthquake
- Power Outage
- Software error
- Flood
- Hardware error
- Burst Pipe
- Network Outage
- Theft of cpu and box

2. Review other risks

- Loss of Communication line
- Lightning
- Hard Drive Failure
- Communication Failure

- Server Destroyed
- Cluster Destroyed

3. Compare building, business and network design to risk type

Step 3. Determine the type of off-site service required

1. system restore procedures (the off-site situation can vary anywhere from a single tape and hardware that must be purchased to a complete system with data that has automatically been transferred via electronic data transfer.
 - New computer must have operating system loaded before tape can be read
 - Operating system should not be recorded on tape. Only system data.
 - Operating system need only be saved from last update
 - Operating system must reside on bootable media
 - Configuration information for tuning and peripherals must be kept separate from operating system
 - System capacity may need to increase due to the recovery of missing and orphan data
 - Loss analysis requires data at the time of the disaster to be retained
 - Extra capacity may be needed to support disaster communication and disaster inventory
2. network restore procedure
 - network must be connected
 - new lines may have to be laid and attached
 - local users may become remote users and vice versa
3. application recovery procedures
 - Vended
Cd's or tapes may suffice on and off-site
Source may be required if operating system changes
 - Home grown
Documentation saved on and off site
Source code saved on and off site
 - Application configuration
Back up whenever it changes
Tape copies should be maintained on and off site
 - License keys
Store on and off site
Available to designated individuals
4. Application data recovery procedures (how much data is lost depends on the frequency of backups and the time of the last good backup)
 - Remember that the tape or cd at the cpu site may be lost in a disaster

- Preserve for many months working copy of all data bases at last good backup
5. orphan data recovery procedures
- orphan data can be reduced by mirroring drive on site with drive off-site, but communication costs increase
 - communication cost increase
 - restoring data depends upon its interdependence
 - data may be preserved as unprocessed transaction at terminals and remote computers
 - a transaction record may be preserved off-site that is separate from the back up of the system
 - Data must be processed by on application before it can be part of the active data
 - Data entered between the time of the lost good backup and the disaster may be lost
 - It may be reentered when angry customers call up and ask about their lost order
 - When the system is down. data may need to be handled manually until the system comes up

Step 4. Test the procedures in a live situation. (There are numerous reasons why good plans will fail. but in the case of a disaster your options are more limited and failure becomes very painful. So an actual test is very desirable.)

1) Identify "Most Likely To Foil" Causes

- Some types of files not backed up
- License keys may not function
- Capacity calculations may be inadequate
- Missing Information
 - Names and contact information for critical personnel
 - Lists of users and log in information
 - Normal and backup configuration of systems and network
 - Service level agreements and contact information
 - Pre-written messages to media regarding disaster
 - Any Authorizing signatures required on disaster recovery plan
- Develop an Action Plan to Correct

Step 5. Document and maintain the plan

Step 6. Server, Tape Library Tech Notes

- 1) Separate Operating System and other backup software
- 2) Tapes should have 2 days on site 2 days off-site
- 3) Do a full volume backup every day

- 4) Incremental backups complicate the situation undesirably
- 5) Backup one system on one tape
- 6) Prepare a printed document with key server aspects
 - User list
 - Print CUES
 - Server Name
 - Context where users log in to
 - Domains
 - Primary Domain Control
 - Critical Info about System to Reload Software
 - Use an electronic document if accessible
- 7) Note Configuration Issues
 - UNIX configuration information is accessible off of a backup tape
 - Novell configuration info off a backup tape can not be recovered
 - NT configuration can be partially restored off a backup tape
- 8) Loss of a Communication Line
- 9) Disaster Recovery should be planned into design of system
- 10) Different data is available at different times
- 11) Redundant Servers and data lines are helpful
- 12) Some incidents cause an uncertainty factor which is hard to evaluate
- 13) Lightning may cause damage which is immediately evident in some cases, but is hidden until months later for others
- 14) Beware encryption problems. If auto locks are missing, software is lost
- 15) Sample Recovery Times for File Servers
 - Hard drive failure 2-4 hours
 - Communication failure 1 min to 3-4 days. Often a Telephone Company problem
 - Server Destroyed - suitable machine/software in hand. 2-3 hours
 - Cluster Destroyed - segment cluster so machines are in different locations.
 - Fire wire facilitates segmenting cluster
 - Plan recovery so servers can be replaced simultaneously
 - Most recovery projects involve 90% communication problems and 10% software configuration

Part II. Commercial Property Insurance

Commercial property insurance policy: The commercial property insurance policies consist of the following items.

Commercial property policy =

Commercial property
 declaration + commercial
 property conditions +
 commercial property coverage
 form + commercial property
 causes of loss forms +
 endorsement as needed and
 required state changes(optional)

Standard Exclusions and/or limitations may include but not limited to: building ordinance, earth movement; including earthquake, landslide, earth sinking, rising or shifting, government action, nuclear hazard, power failure, mechanical breakdown, war and military action, water, wrongful terminations, sexual harassment and asbestos liability.

Coinsurance: Is a penalty imposed on the insured by the insurance carrier for under reporting the value of tangible property or business income. The penalty is based on a percentage stated within the policy and the amount under reported. As an example:

- A building valued at **\$1,000,000** has an **80%** coinsurance clause but is insured for only **\$750,000**.
- It suffers a **\$200,000** loss.
- The insured would recover

$$\text{\$750,000} \div (.80 \times \text{\$1,000,000}) \times 200,000 = \text{\$187,500} \text{ (less any deductible).}$$

In this example the underreporting penalty would be **\\$12,500**.

Commercial property declaration: The commercial property declaration is a page that contains information specific to the commercial property coverage part. It not only includes the name insured, but also describes the premises, indicates the coverage selected with respective limits, shows optional coverage chosen (if applicable), displays the deductible, cites the co-insurance percentage applicable, and lists any mortgage holders.

Commercial property conditions:

Control of property: Any act or neglect of any person other than you beyond your direction or control will not affect this insurance. The breach of any condition of this Coverage Part at any one or more locations will not affect coverage at any location where, at the time of loss or damage, the breach of condition does not exist.

Insure under two or more coverages: If two or more of this policy's coverages apply to the same loss or damage, the insurance company will not pay more than the actual amount of the loss or damage.

Coverage territory: Coverage territory is the United States of America (including its territories and possessions) Puerto Rico and Canada.

Commercial property coverage forms:

- Building and business personal property coverage form
- Builders risk coverage form
- Business income (and extra expense) coverage form
- Business income (without extra expense) coverage form
- Extra expense coverage form
- Condominium associate coverage form
- Condominium commercial unit-owners coverage form

Description:

- *Buildings:* Is the structure described in the declaration page, including completed additions, fixture, permanently installed machinery and equipment, and personal property used to service or maintain the building (outdoor furniture, floor covering, and refrigerators).
- *Business personal property:* Is the insured property located inside the building or within 100 feet in radius described in the declaration page.

Items included as personal property:

1. Furniture.
2. Machinery and equipment (other than what is classified as building)
3. Stock materials used for making the insured's product or merchandise for sale.
4. All other personal property owned by the named insured and used in the insured business.
5. Labor, materials, or service furnished or arranged by the named insured on personal property of others.

Property not covered

1. Accounts, bills, currency, deeds, evidence of debt, money, notes.
2. Animals.
3. Autos held for sale
4. Bridged, roadways, walks or other paved surface
5. Contraband, or property in the course of illegal trade or transportation

6. Foundation of buildings, structures, machinery, or boilers if their foundation is below the lowest basement floor or surface of the ground
7. Land, water, growing crops or lawn
8. Personal property while airborne or waterborne
9. Piling, pierce, wharves or docks
10. Retaining walls that are not described on the declaration page
11. Underground pipes, flues or drains
12. Cost to research, replace or restore information on valuable papers and records, except as provided by coverage extension
13. Vehicles of self propelled machines (aircraft or water craft)
14. Certain described property while outside of the buildings
15. Other property such as unattached signs and fences except as provided by coverage extensions

Optional coverage: There are three optional coverages an insured may elect to carry for an additional premium. An entry must be made in the declaration page for any of these coverages to be included.

- *Agreed value:* The selection of the agreed value form allows the insurer to suspend the coinsurance provision discussed below. In this form the insured agrees on a specific amount of insurance carried, this remains for one year and must be reevaluated and renewed.
- *Inflation guard:* This optional coverage increases the limits of the policy automatically to reflect inflationary increases in the value of the property
- *Replacement cost:* This is the most important to mention which is based on the replacement cost and actual value cost.

Replacement cost and actual value cost: The replacement cost coverage intends to closely reproduce your current functional plant. This means it will try to replace your damaged equipment with used similar equipment. You will have to decide with your insurance agent if you want to find comparable equipment in the used marketplace or carry extra insurance to buy new equipment. You can also accept the depreciated amount of money your carrier will offer you for your previous equipment (**Actual Value Cash**).

Time element coverage: Is a coverage which pays for loss of earnings or income when business operations are interrupted, curtailed or suspended due to property loss as a result of an insured cause of loss. Also covered are loss of rents and rental value. The current commercial time element coverage forms are business income and extra expense. Extra expense covers costs incurred to continue operations at another location.

Requirements for time element loss:

- The property must sustain direct damage
- The damage must be attributable to a covered cause of loss
- The damage must occur at the described premises
- The business has to suspend operations and/or incur extra expenses
- The business must suffer actual financial loss during the period of restoration

Business Income and Extra Expenses coverage:

- *Business income:* This consists in two amounts the policy will pay; 1) the net income that would be earned and incurred and 2) continuing normal operating expenses (including payroll)
- *Extra expenses:* These are additional expenditures a business would not normally have that are incurred during the period of restoration following a covered loss. Expenses, above normal expenses incurred during the “the period of restoration,” and are covered in 3 ways. The policy will pay extra expenses to:
 1. Avoid or minimize the shutdown and continue operations
 2. To minimize the suspension of operations if the business cannot continue operating
 3. To repair or replace property to the extent the expense reduces the business income loss

Legal liability form: This coverage form pays for the insured’s legal liability for loss or damage to property of others in the insured care, custody, or control resulting from a covered cause of loss. It includes coverage for loss of use and defense.

Dependent properties: In our industry we are quite frequently dependant on other firms to supply us with material or provide trade services. What would happen if one of these businesses was destroyed by fire or had some form of disaster? Ask your agent if your business interruption insurance provides dependent properties coverage.

Leasehold insurance: Protection against the lessees (tenant's) loss of value when a lease is canceled because a fire or other peril renders the property unusable, the value being the excess of the rental value of the property over the rental payable in the lease. The insurance against the loss of such value is "leasehold" insurance against whatever perils may be written.

Errors and Omissions insurance: Protects your company from claims if your client holds you responsible for errors or the failure of your work to perform as promised in your contract. Coverage includes legal defense costs - no matter how baseless the allegations. Errors and Omissions Insurance will pay for any resulting judgments against you, including court costs, up to the coverage limits on your policy.

Additional coverage: There are only five additional coverages

- Debris removal
- Preservation of properties
- Fire department service charge
- Pollutant clean up and removal
- Increased cost of construction

There are other types of printing-specific business interruption coverages which may be opted for.

- Mechanical breakdown
- Electronic data processing
- Manufacturers selling price

After the loss

The claim filling process: The insurance contract will normally outline that the carrier should be made aware of a claims instance within 24 hours after a claim occurrence is recognized. The insurance company should make contact with you through one of its loss adjusters within 48 hrs after the loss notification.

A good planning tool will be to have your agent at the time of the policy purchase explain how your losses will be handled. Ask for a written procedural outline of who to contact and make sure there is a way to reach someone at any hour of the day.

Your responsibility after the loss:

- Notify the carrier
- Protect undamaged property
- Prepare an inventory of loss for the company

Disaster Protective Measures

We consider that California has a high propensity on two types of natural disasters; wild fires and earthquakes; we will mention some basic protective measures on how to act during these two situations and will give some information on what to do to prevent computer downtime.

Wild Fires

Take protective measures for wild fires:

- Mark the entrance of your property with address signs that are clearly visible from the road.
- Keep lawn trimmed, leaves raked, and the roof and rain gutters free from debris such as dead limbs and leaves.
- Store flammable materials, liquids, and solvents in metal containers.
- Landscape your property with fire resistant plants and vegetation to prevent fire from spreading away quickly (there are certain plants and trees that are more fire resistant than others)
- Make sure water sources are accessible to the fire department
- Use fire resistant, protective roofing materials.

During a wildfire:

- Shut off gas at the meter. Only a qualified person can safely turn the gas back on.
- Turn off propane tanks
- Wet the roof, place sprinklers near fuel tanks
- Wet or remove shrubs within 15 feet of your establishment
- Gather fire tools such as rake, axe, handsaw, bucket and shovel.
- Back your car up or park it facing the direction of escape. Leave the key in the ignition and car doors unlocked.
- Move flammable furniture into the center of the establishment

Earthquake

Key steps to protect against earthquake damage:

- Secure heavy furniture and other items
- Secure loose items and equipments
- Fasten water heaters
- Secure propane tanks
- Anchor wood burning and free standing stoves
- Bolt the sill plate of the building to the foundation
- Brace cripple walls
- Repair defective electrical wiring, leaky gas lines and inflexible utility connections.

During the earthquake:*Indoors*

- Take cover under a sturdy desk, table, and bench or against the inside wall, and hold on. If there is none of these around, cover your face and your head with your arms, crouch in an inside corner of the building.
- Stay away from glass, windows, outside doors and walls, and anything that could fall, such as lighting fixtures or furniture.
- Use a door way for shelter only if it is in close proximity to you and if you know it is strongly supported, load bearing door way
- Stay inside until the shaking stops and it is safe to go outside. Most injuries during earthquakes occur when people are hit by falling objects when entering into or exiting from a building
- Be aware that the electricity may go out or the sprinkler system or fire alarms may turn on
- Do not use elevators

Outdoors

- Stay still
- Move away from buildings, streetlights, and utility wires.

In a moving vehicle

- Stop as quickly as safety permits and stay in the vehicle. Avoid stopping near or under buildings, trees, overpasses, and utility wires.
- Proceed cautiously once the earthquake has stopped, watching for road and bridge damage.

Trapped under debris

- Do not light a match
- Do not move about or kick up dust
- Cover your mouth with a hanker chief or clothing
- Tap on a pipe or wall so rescuers can locate you. Use a whistle if one is available, shout only as a last resort (shouting can cause you to inhale dangerous amount of dust.)