



# Risktopics

2-7.006 July 2010

## Salvage and recovery operations

Business recovery planning consists of planning to minimize the anticipated business interruption in the aftermath of a disaster. Assuring the safety and security of people and stabilization of the immediate crisis is the primary task. The success of any recovery and restoration will depend on the advance consideration and prioritization of mission-critical processes, equipment and documents in your goals for recovery. This prioritization will help you develop a recovery strategy that is consistent with your recovery goals and needs. Advance planning will help you avoid panic and resume normal operations as quickly as possible. Recovery planning should be part of overall business continuity planning, and should consider functional responsibilities, inventory of internal resources and external support requirements. The planning should also establish standby contracts and cultivate relationships with contractors and services anticipated in recovery efforts. These efforts can help in getting “preferential” service in a crisis affecting a large area.

Recovery for a small loss and minor damage can be handled with internal resources. Extensive damage will most certainly require services of a qualified professional salvage and restoration contractor. A systematic approach will result in less panic and a speedy resumption of your business. The responsibility and procedures for the activation and deployment of these recovery teams and contractors should be part of the plan. Standby arrangements with emergency services and restoration contractors should be considered in the planning process. Your insurance company should also be notified promptly. Insurance claims adjusters may have some advice and resources available to assist in your recovery efforts. Keep appropriate records of damage and recovery efforts for insurance claims.

After the initial damage assessment and securing the facility, salvage operations may be undertaken. Salvage operations may range from securing undamaged equipment and goods to salvaging of electronic equipment, documents, furniture and other items. Care must be taken while working with any equipment that is water damaged to minimize electrical hazards and damage to the equipment itself. Many of the salvage tasks require specialized skills and knowledge. Salvage of telecommunication equipment, electronic data and documents is a highly specialized task that is better left to professionals.

Zurich Services Corporation is providing the following tips for worker safety during cleanup and recovery operations. They are general in nature, not all-inclusive and may have to be modified based on your specific situation.

## General safety/personal protective equipment

- Equip workers with a minimum complement of routine safety equipment, such as hard hats, safety glasses, heavy work gloves and steel-toed safety shoes or boots.
- Workers should be prepared for the same types of conditions as when working at an outdoor construction site, except that the conditions and work may be extreme.
- Additional protective equipment, such as respirators, chemical protective gloves or suits, etc. should be provided as needed. Selection of proper equipment should be made by a qualified safety professional.
- All activities should have a pre-plan meeting and be clearly communicated to all workers.
- Clean, cool, potable water should be available for workers. In addition, workers should be encouraged to practice good personal hygiene, such as washing thoroughly before eating or at the end of a work shift.
- Commercially available disinfecting solutions may be useful in allowing workers to practice good personal hygiene.
- Use of chain saws and other equipment may present a noise exposure requiring the use of hearing protection.
- Flood and other disasters may result in hazardous material spills and leaks that can present significant environmental issues and injury potential for workers.

In addition to general safety measures indicated above, depending on specific situations, you may also have to consider other exposures. Some examples include:

- Structural safety
- Tool safety
- Work at height
- Electrical hazards
- Standing and moving water
- Manual material handling
- First aid/disease prevention
- Confined spaces
- Heat/physical stress

Recovery operations can be broken down into the following categories:

- Damage assessment and control
- Salvage of property and assets
- Restoration and resumption of business

## Damage assessment and control

Responding to an advance warning of an impending disaster such as weather emergencies means actions can be taken in advance to protect people, property and assets. Evacuating or sheltering people will help reduce injuries. Removing sensitive stock and equipment from the potential dangers and taking other protective actions will result in less damage and reduce your salvage recovery requirements. Stockpiling of materials and supplies needed for damage control and salvage operations should be considered. Sandbag and move stock from flood-prone areas of the facility. Boarding up windows in anticipation of a hurricane is a standard practice in a hurricane preparedness plan.

Depending on the type of disaster and the extent of damage, any number of challenges may be presented. In a case of extensive damage, management may be forced to consider moving to an alternate temporary facility.

Continued threat, unsafe structure or forensic investigation by a government agency may delay access to the facility and resumption of operations. Permission and clearances from various emergency services may be required to access the facility and enter the premises for damage assessment and clean up. Disasters affecting a large area or region will require a major coordination of efforts with emergency services and government agencies.

The first step in the damage assessment is to assure the structural integrity of the building with the assistance of qualified professionals. The purpose of this assessment is to determine if the facility is safe for continuing your operations. In addition to the structural integrity of the building, the assessment should also focus on the utilities and other support systems needed for the resumption of your business operations. Electrical and natural gas utilities may have been shut off by emergency service personnel. Emergency repairs to the structure and equipment and other temporary arrangements may have to be considered. Actions may be required to protect the facility and assets from further contamination or damage. These actions may range from using tarpaulin covers to salvaging the undamaged goods and equipment. Assess the threat of secondary fires, explosions and the collapse of any unsupported walls. Other actions are needed to address various post-disaster hazards. Exposed electrical wires, leaking hazardous chemicals, dangers of falling glass and broken sprinklers must also be part of these priority tasks before any salvage operations can begin. Take video and photographic records of everything to document the extent of the damage as soon as it is safe to do so.

### Salvage of property and assets

After the initial damage assessment, the facility should be secured. Protection of employees, contractors and the public is important. Isolate the affected areas with barricades and only allow authorized personnel to access the facility. Security of the facility and safety of the salvage team should be a high priority in planning salvage and recovery operations. FEMA (Federal Emergency Management Agency) provides guidelines for salvage operations after natural disasters. Depending on the type of disaster and the extent of the damage, different safety precautions may be needed. The following actions should be considered:

- Provide appropriate PPE (personal protective equipment) to your employees involved in the salvage actions. PPE may include hard hats, safety glasses, dust masks/respirators and others, as appropriate. You may wish to stockpile appropriate PPE to avoid the delays in securing the PPE.
- Conduct air and water quality testing and other sampling for the presence of asbestos, PCB, biological hazards and other toxic chemicals in the environment.
- Wear boots, protective gloves and goggles and use only approved sanitizers for the cleaning and sanitizing of goods, equipment and surfaces.
- Ensure that the electrical power is shut off when working in waterlogged areas and that proper lockout/tagout procedures are followed when working with damaged equipment.
- Hire qualified professional contractors for inspection and repairs of critical systems such as elevators, emergency lighting, alarms, sprinkler systems, pressure vessels and process controls.

Although the speed of salvage operations is critical, careful planning is the key factor in a successful recovery. Salvage operations include separating the damaged stock from the undamaged stock. Smoke damaged or wet goods may have to be aired out to dry or disposed of to prevent mold growth. Machinery salvaging may require disassembly and overhaul by the manufacturer or qualified vendors. Some equipment and supplies can be very sensitive to water and heat resulting in extensive damage and long delays in obtaining replacement parts.

Salvaging of telecommunications and computer equipment is a highly specialized task and a qualified contractor should be engaged as soon as possible. An amateur effort is likely to cause irrecoverable damage to the data and the equipment. Disconnect electrical power to all electronic equipment to prevent shorts and other damage. Equipment designed with automatic power-down and water sensors is likely to suffer minimal shorts and damage. The equipment with direct fire and visible thermal damage may be difficult to salvage and restore successfully. Smoke, soot and acidic by-products of fire (plastics, insulations, etc) can cause corrosion of metal surfaces and electronic circuits. Cleaning of smoke-damaged equipment is an elaborate and time-consuming process. Removing smoke-exposed equipment to a temperature- and humidity-controlled environment will stabilize the corrosion process and limit deterioration. This will allow a professional restoration contractor to

assess the damage and employ appropriate techniques such as blotting with absorbent pads, vacuuming and drying.

Salvaging of electronic data and media is also a task for a professional. Hard disks, magnetic tapes, and other media are used for storage of a variety of business information essential to business operations. Data from electronic media with visible thermal damage is generally not recoverable. Obtain appropriate advice from professionals before attempting any salvage of electronic data. Failure to take proper precautions will have an adverse impact on the success and the recovery rate of the data. Special procedures and solutions are used for cleaning soot and other damage. Careful salvage steps and prompt action will reduce further contamination and fungus growth on water-damaged electronic media. Water-damaged microfilms and magnetic tapes should be kept wet (wrapped in plastic to prevent drying) until ready for the recovery process by professionals. This will prevent sticking of layers and damage to the media.

Salvaging of paper documents and archives require special drying and dehumidification procedures such as quick or blast freezing to prevent further deterioration. These processes require special equipment and may be carried out on or off premise.

## Restoration and resumption of business

The ultimate goal of business continuity planning is to minimize the disruption in the aftermath of a disaster and ensure quick resumption of business operations. Extended business interruption will seriously impact the bottom line by affecting profits, market share and customer retention. Prompt resumption of business operations requires ensuring priority actions in the following areas:

- **Safe and secure facility for intended operations** - These actions may range from relocating to an alternate leased facility to temporary repairs. Area-wide disasters such as a flood or an earthquake affect the entire community. This can also have an adverse impact on the access to the facility and even the ability to obtain an alternate facility in the area. The decisions regarding the need for temporary relocation have to be made early on in the damage-assessment phase. If you have more than one location, operations can be shifted temporarily to an alternate facility if the space and extra capacity is available. When relocation is not feasible, or not an option, expedited repairs of the facility become the number one priority.
- **Restoration of key equipment** - Although it may not be possible to restore all the production equipment at once, a sound restoration strategy ensures key equipment is repaired, reconditioned or replaced promptly. Speedy resumption of business will depend on the ability of the company to identify key equipment by priority and to produce equipment and process specifications for repairing or rebuilding. Secondary decisions may include using subcontractors and alternate facilities to supplement the production capacity while the repairs and restoration efforts are expedited.
- **Vital business records** - Whether electronic or paper, records are the life-blood of a business. Vital records are generally different from the routine daily records. They will vary greatly by type of business and business processes. Records may be classified into functional categories such as financial, production, sales and administrative. Although salvage operations may be able to recover current records, pre-loss planning to identify and protect specific vital records is essential to business survival. Business incorporation, stock and ownership records, engineering specifications and patents, insurance policies and other financial records are examples of vital records. A company may protect their vital records with on-site storage in fireproof vaults and safes or by storing duplicate vital records in segregated off-site facilities. Selection of an off-site storage location should be based on a comprehensive review of potential threats to your facility. Storing vital records in another part of the building or even another building in the neighborhood is not a prudent risk management decision for protection against regional disasters such as floods and earthquakes. In addition to the protection of vital records, regular backup of routine computer records should be a standard practice to minimize any data loss. The copies of backed-up data should be stored in a safe, secure, off-site facility.
- **Support systems** - Most disasters result in interruption of telecommunications, data processing and other support systems. Pre-approval and standing contracts with "hot sites" and "cold sites" are essential for resumption of data processing functions at the alternate location. Many vendors work on a "first-come first-serve" basis. Contact "hot and cold site" vendors as soon as possible to assure

availability in case of large regional disasters. Backup computer systems, software versions and licenses should be consistent with your existing computer center operations. Damage to the telecommunication equipment on-site and to the systems supplying the services to your site will require making temporary alternate arrangements as necessary. Swift restoration will allow you to re-establish communications with your customers, vendors and others doing business with your organization. Other essential support systems may include HVAC, refrigeration systems, etc.

- **Employees** - Temporary relocation of operations may require consideration for temporary relocation or transportation of employees. Allowances may have to be made for extra travel time and cost. Regional disasters will impact the ability of employees to report to work due to personal emergencies, family obligations and other reasons. Childcare and flexible work hours will allow more employees to report to work. Telecommuting options may be worth considering with some technology planning. Temporary hiring may be necessary if availability of regular employees is affected by the disaster. Many catastrophic events have a significant physical and psychological impact on employees and associates. Crisis counseling and other employee assistance programs will help your employees cope with the adverse impact of the event and adjust during the recovery phase.
- **Insurance** - Keep accurate records of expenses to support your insurance claims for business interruption and extra expenses. Stay in contact with your insurance claims adjusters and agent/broker during your salvage and recovery operations.

## Conclusion

When a disaster strikes, the survival of your business is on the line. Accurate information is one of the most important elements in a speedy recovery and resumption of business operations. Establish change management procedures to address the impact of material changes to the processes, business priorities, personnel assignments and other important information. Since prompt communication is the key, periodic checks of calling trees to verify the accuracy of phone numbers, cell phones and pagers should also be conducted. Business recovery planning is part of an integrated business continuity strategy that focuses on prevention, response, mitigation and recovery elements. A business recovery plan without any focus on prevention and emergency response programs is like trying to close the barn door after the horse has run away. No plan will perfectly address all emergency situation and recovery procedures that may be encountered. Any plan is better than no plan. Lack of planning is a threat to survival.

## References

1. "Emergency Management Guide for Business and Industry - A step-by-step approach to emergency planning, response and recovery for companies of all sizes." FEMA-141, October 1993, Federal Emergency Management Agency: <http://www.fema.gov/business/guide/toc.shtml>
2. "Open For Business - A Disaster Planning Toolkit for the Small Business Owner." Institute for Business & Home Safety (IBHS) and Small Business Administration (SBA): <http://www.ibhs.net/ibhsdocuments/pdf/recovery.pdf>
3. Developing and Maintaining a Vital Records Program- U.S. Environmental Protection Agency; Chapter 5: Disaster Recovery and Salvage: <http://www.epa.gov/records/tools/toolkits/vital/index.htm>
4. Preservation and Archives Professionals: The National Archives <http://www.archives.gov/preservation/disaster-response/vendors.html>

**Zurich Services Corporation**

Risk Engineering

1400 American Lane, Schaumburg, Illinois 60196-1056

800 982 5964 [www.zurichna.com](http://www.zurichna.com)

The information in this publication was compiled by Zurich Services Corporation from sources believed to be reliable for informational purposes only. All sample policies and procedures herein should serve as a guideline, which you can use to create your own policies and procedures. We trust that you will customize these samples to reflect your own operations and believe that these samples may serve as a helpful platform for this endeavor. Any and all information contained herein is not intended to constitute legal advice and accordingly, you should consult with your own attorneys when developing programs and policies. We do not guarantee the accuracy of this information or any results and further assume no liability in connection with this publication and sample policies and procedures, including any information, methods or safety suggestions contained herein. Moreover, Zurich Services Corporation reminds you that this cannot be assumed to contain every acceptable safety and compliance procedure or that additional procedures might not be appropriate under the circumstances. The subject matter of this publication is not tied to any specific insurance product nor will adopting these policies and procedures ensure coverage under any insurance policy.

©2011 Zurich Services Corporation

**Zurich HelpPoint**  
Here to help your world.

 **ZURICH**<sup>®</sup>  
*Because change happenz*<sup>®</sup>