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**ANALYSIS OF DISASTER PLANNING
IN BUSINESS AND INDUSTRY**

by

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ABSTRACT

Natural and man-made disasters ranging from minor disturbances to major catastrophic events will continue to plague U.S. business and industry in the future. The economic costs and loss of human lives will remain unacceptably high without corrective actions on the part of both government, and business and industry. Corporate losses each year are staggering -- vastly reducing the U.S. gross domestic product, and certainly weakening this nation's ability to pursue its stated national interests. The February 1993 bomb blast which ripped through New York City's World Trade Center caused over one billion dollars in property damage and lost profits. Thus, any serious efforts to ensure the uninterrupted operation of American business and industry in the event of a disaster would appear to be of paramount importance. Government leaders, as well as business and industry executives, share a responsibility in disaster planning and preparedness.

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S33**

Analysis of Disaster Planning in Business and Industry

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INTRODUCTION

Business and industry of all sizes are susceptible to damage or destruction from natural disasters and man-made catastrophes. Newspapers describe daily the loss of life, suffering, and costly damages caused by tornadoes, hurricanes, earthquakes, fires, chemical spills, and so on. Media coverage of these events has brought significant pressure upon federal, state, and local authorities to plan for disasters, and respond quickly and decisively. This is particularly true in regard to relieving human suffering, as was the case with the August 1992 Hurricane Andrew disaster and subsequent massive response effort in Florida.

But what about U.S. business and industry? Are they prepared for disasters? Should they plan? What is business resumption planning? What can they do to be ready? Is insurance enough? What are the risks, the costs, and what should government do to assist?

I will address these questions in this paper. Further, I will make recommendations in regard to U.S. policies, and suggest changes for business and industry to adopt in regard to disaster planning.

THE CONNECTION WITH NATIONAL SECURITY

In the interest of national security, business and industry personnel and dollar losses negatively impact the U.S. national economy; in some cases quite severely. The Commerce Department reported that due to the effects of 1992's Hurricane Andrew

(Southeastern U.S.) and Iniki (Hawaii), the nation's corporate profits were down by 45 billion dollars and personal income was reduced by 10 billion dollars at an annual rate in the third quarter of 1992.¹ Farm income was reduced by 7.3 billion dollars alone in August 1992 at an annual rate.² Coupled with other natural and man-made disasters which occurred in 1992, the dollar losses to U.S. business and industry ran into the hundreds of billions of dollars.

Corporate losses each year are staggering -- vastly reducing the U.S. gross domestic product, and certainly weakening this nation's ability to pursue its stated national interests. In fact, the January 1993 National Security Strategy of the United States released by the White House, states "National prosperity and national security are mutually-supportive goals," and "A top national security priority today must be to strengthen economic performance at home." Thus, any significant effort to help ensure uninterrupted operation of American business and industry in a disaster-stricken area appears to be of paramount importance.

In more detail, natural and man-made disasters increase the U.S. trade imbalance, slow economic growth, decrease the savings rate, reduce national productivity, raise unemployment and so on. Additionally, our most precious national resource -- people, are often injured or killed. Should we not protect our work force as we would valuable natural assets and capital?

As the U.S. reduces the size of its military, the importance of its ability to rapidly and effectively mobilize greatly

increases. It is easy to see that corporate losses and actual destruction of some firms, possibly including strategic industries, seriously impairs our ability to mobilize and reconstitute.

The U.S. can ill afford the tremendous losses to business and industry suffered each year. The billions spent by the government in emergency relief are overwhelming enough -- adding more fuel to the U.S. budget deficit and national debt.

WHAT ARE THE RISKS

On Monday, 13 April 1992, several downtown Chicago businesses reported flooding in their buildings. The flooding, caused by construction work near a power, phone, and television cable tunnel adjacent to a river, progressed to the point where 200 buildings were without power, 250,000 people had to be released from work, and 21 square blocks were affected. Estimates ran to 40 million dollars per day in lost productivity, with a possible cost impact of 1.5 billion dollars. Electrical power outages plagued many of the businesses for days, and recovery operations did not go smoothly for all firms.³

The vulnerability of our nation's businesses and industry to natural and man-made disasters has risen with our growing economic expansion and corresponding corporate complexity and automation. Most businesses today of any size depend on high technology systems for the flow of vital information; without communications or computers, most businesses would cease to operate.

Statistics show that between four and one half to five and one half days after a data processing disaster which is not corrected, company efficiency drops to 50 percent, and by the 11th day to only nine percent.⁴ And according to the National Fire Protection Agency, after a fire, 43 percent of all businesses never reopen,

while 29 percent close within three years of the fire.⁵ These statistics paint a dismal picture for firms which have or may experience various disasters.

An effective risk management program is one important method for a company's leadership to manage risks by either eliminating, reducing, accepting, or transferring them. Risk management is already a normal function of most large companies, and an integral task in the disaster planning process. Three essential elements of risk management are described below.⁶

First, firms must identify the nature of the risks involved. This paper is concerned with two types of risks -- natural and man-made or technological disasters.

In regard to natural disasters, businesses must analyze which natural hazards pose threats, and to what degree. The size of a company, its facilities, the geographic location, and the season of the year are just a few of the factors to consider. For instance, floods may be a specific interest if a company rests in a flood plain, or earthquakes may be of primary concern if a firm is located in Los Angeles. In any case, other natural risks include storms, tornadoes, dam failures, hurricanes, heavy snow and ice, tsunamis, fires, volcanoes, etc. Local (city and county) and state emergency planning offices are good sources of information in identifying these risks.

Natural disasters threaten all parts of the U.S., so no business or industry is immune. The fact that more and more people, including businesses, are concentrating in urban zones

today makes them even more susceptible to disaster, while natural threats can be predictable, more often than not they are unpredictable. One new natural threat recently recognized is the urban wildfire. In October, 1991, a wildfire swept over 1,800 acres in the hills of Oakland and Berkeley, California killing 24 people and resulting in almost 2 billion dollars in financial losses.⁷

Man-made or technological risks are another risk management planning worry. They include, but are not limited to, hazardous material spills, nuclear accidents, weapons incidents, civil disturbances, sabotage, computer hacking, terrorism, intrusion, transportation accidents, bombings, chemical spills, structural fires, power outages, public demonstrations, and so on.

Man-made threats are a considerable risk to companies, but also may affect the public at large. Chemical spills, for instance, pose a direct threat to people and property if they take place on a road near a populated area. Company executives could be subject to both criminal and civil penalties today for injuries, death, and property damage caused by their negligence or breach of safety. The fact that technological innovations will continue poses a real challenge to our nation's businesses and industry.

The second step of risk management is determining the probable consequences of a disaster. Risk managers often conduct risk surveys to determine the extent of assets needing protection. Depending on the size and type of enterprise, losses or damage could pertain to hard copy documents, data files, libraries,

software, hardware, furniture, equipment, and facilities. The vast majority of financial firms would obviously be concerned with their data centers for instance, where smaller businesses may be mainly interested in the consequences of the loss or damage to their facilities.

The third and final element of risk management is assessing the potential financial impact of a disaster on a company. Once the risks are identified and assessed, potential financial losses can be estimated and equated to a dollar figure. For instance, a telephone sales firm or catalog sales operation which relies on the public phone networks, may equate a one hour phone outage with 50,000 dollars in lost sales. This example is not farfetched. A 1988 fire at a telephone hub station in Hinsdale, Illinois severely affected businesses throughout the nation. Incoming calls and toll-free services were knocked out for Transworld Delivery, Sears, and other large businesses. One distributor, for example, lost its incoming calls for two weeks which had previously averaged 5,000 calls per day.⁸ A detailed economic risk assessment may thus convince a firm to increase its insurance, procure a backup power supply, or obtain diverse telephone routing for their calls, for example.

Severe disasters, such as the California Loma Prieta earthquake of October 1989, or South Carolina's Hurricane Hugo of September 1989, demonstrate the complexity, and illustrate the financial relationships among companies. Each of the two states lost tourism dollars because of the disasters, as did the airlines.

Huge amounts of timber were lost in South Carolina and significantly affected the regional construction industry. The various insurance industry headquarters located throughout the nation which underwrote the individual and business losses, suffered their own financial losses.

The importance of risk management assessment, and its ultimate objective, is the firm's survival.⁹ Once the assessment of the risk is complete, company management must then decide whether to develop a disaster recovery plan, dust off an existing plan, or decide the costs are too high and the risks too low, and do nothing.

WHY COMPANIES PLAN

"It takes years to build a business...
...But only minutes to destroy it."¹⁰

U.S. business and industry are at risk from a broad spectrum of potential disasters. The largest category of threats are natural; however, man-made or technological disasters may pose an even more serious risk. Managers cannot always prevent disasters from occurring so they must be prepared to manage them properly.

No matter what the threat, planning can save lives, minimize or prevent losses, and may ultimately assure survival of a business. Then why, in a 1989 survey conducted by Contingency Planning Research, Inc., a firm that specializes in disaster recovery consulting and services, was it shown that of 1,500 businesses surveyed, 61 percent had disaster recovery plans

covering only their data centers, and only 12 percent had total organization recovery plans?"

Planning is an essential part of managing any business. Companies, both large and small, plan to some degree. Those with an actual "business plan" and company strategy are today beginning to recognize the importance of preparing a comprehensive disaster recovery plan. In the early 1980s, most companies had security and safety programs in effect, and recognized the value of performing risk management studies or vulnerability assessments. However, those that did have disaster plans, usually only had some sort of data processing backup scheme, employee evacuation plan, or some other limited scope plan. Only recently have consultants, managers, and executives started to realize and stress the importance of **total organization recovery plans**.

There may be no one good reason for business and industry to do disaster planning. All firms operate differently; however, some combination of the following reasons to plan may provide the answer:

- o A risk management assessment indicates a disaster recovery plan is essential.
- o The location of the company is in a high risk area, i.e., situated on a fault line or in a flood plain, for example.
- o The business deals with hazardous materials, chemicals, or nuclear substances where the threat

of a disaster is high, and a threat exists to the general public, as well as employees.

- o A firm is dependent on critical resources or services of companies located in high risk areas or enterprises.

- o Environmental damage may result in the case of an accident.

- o A risk management assessment could save lives and safeguard company assets.

- o Disaster planning may assist in limiting financial losses.

- o Businesses and industries with risk management assessments reduce reaction time and improve coordination.

- o A company or industry experienced a disaster firsthand in the past which resulted in low credibility, i.e., the Bhopal disaster, may require a risk management assessment to improve credibility.

- o Planning can prevent an interruption of product delivery or services to customers, primarily to prevent losing market share, and preventing losses to shareholders.

- o Businesses operate better if a share of the profits are put back into improving the firm.

- o A crisis situation is no time for planning.
- o Planning and preparedness are moral and ethical responsibilities.
- o There is a company expectation that if caught unprepared, the corporation and executives will be penalized heavily.
- o A vital part of a company's business strategy is the planning and preparedness for risks.
- o It is more advantageous to voluntarily plan, before the government imposes regulations.
- o Risk management is a short term cost which may pay a long term benefit.
- o Senior company management is committed to disaster planning, and view planning and preparedness as obvious responsibilities.
- o Risk management helps the company maintain a competitive advantage.
- o Vital company data and history files may be lost forever if there are no contingency plans.
- o Automated firms which cannot go back to manual operation, owe it to the firm's success to be prepared for risks.
- o Preparedness may be contractually required, particularly when associated with the government.

- o Planning guarantees continued employment for employees.
- o A plan for disaster preparedness may offset the rising cost of insurance coverage.
- o A company's auditors or consultants often recommend planning and preparedness for disasters.
- o Industry periodicals endorse disaster planning.

The list of why businesses and industry should do disaster recovery planning is almost endless. Perhaps it is simply just that "An ounce of prevention is worth a pound of cure." The statistics presented earlier in this paper speak for themselves, and generally paint a pretty dismal picture of survival for firms not taking precautions.

BUSINESSES AND INDUSTRIES THAT PLAN

Finally, the question may be asked, "What businesses do disaster planning?" The answer may be that in general, most large companies do limited disaster recovery or business resumption planning. Almost all firms which rely on automated systems and computers have a plan, although it may be outdated.

Depository institutions, colleges and universities, hotels and motels, hospitals, and chemical companies are considered by the Institute for Crisis Management to be the top five crisis prone U.S. industries. And, the fastest growing crisis categories

(threats to business and industry) in the years 1989 and 1990 were crime, government intervention, management scandals, and legal and financial crises.¹²

Public utilities have been in the forefront of disaster planning and maintaining operations during emergencies for years.¹³ However, businesses and industry cannot, and should not, rely on the generally good past records of public utility's services if those services are vital to a company's survival. For example, the 1992 Chicago flood which caused lengthy power outages, and the 1988 Illinois Bell Switching Station fire which caused nation-wide communications interruptions, are prime examples of the failure of public utilities to keep your business operating smoothly.

In contrast, the Pacific Gas and Electric Company of California performed admirably in the aftermath of the 1989 Loma Prieta earthquake. Just a few months prior to the earthquake, the utility had staged an emergency response drill based on a hypothetical 7.0 magnitude earthquake near San Francisco.¹⁴ The company and emergency workers were therefore sufficiently prepared to deal with the actual quake. On the East Coast, Baltimore Gas and Electric Company tested its plan in 1985 during two kidnapping/hostage incidents, and during a major labor dispute.¹⁵ The company was obviously farsighted enough to have developed a **comprehensive** plan addressing significantly more contingencies than just the traditional issue of responding to the interruption of utility service to customers.

In regard to financial institutions, particularly banks, most

have some type of disaster recovery plan, but many of these may not have been regularly updated or tested. Federal regulations for banks simply mandate that plans be developed and reviewed annually. On the other hand, lightly regulated industries have typically operated under the assumption that disasters will not strike or that insurance solves any problems that arise.¹⁶

Finally, the Institute for Crisis Management determined in a 1991 business executive survey that while 76 percent of them believe that crises are inevitable, 76 percent have no formal plans. And, 72 percent of the executives do not have a crisis management team in their organization, 57 percent are not satisfied with their company's crisis response capabilities, and 73 percent provide no crisis response training.¹⁷ The notion that business executives believe a crisis or disaster will occur, yet prepare inadequately, is a real paradox. The next section of this paper may present some insight into why businesses inadequately plan, or fail to plan for disasters.

WHY MANAGEMENT IGNORES DISASTER PLANNING

Not all businesses and industries develop disaster plans, even though their management recognizes that disasters can and will occur. Planning is normally undertaken to avoid risk and uncertainty, but no amount of planning and precautions can reduce risk to zero.

Management can be defined as the art of handling or directing to achieve a purpose, which includes the basic functions of

planning, organizing, leading, and controlling.¹⁸ However, many managers disregard or simply overlook disaster planning as a key element to their overall planning efforts, and possibly to their survival.

New enterprises may legitimately lack the financial and personnel resources to do an adequate job of disaster planning; everyday business operations are often overwhelming in and of themselves. And then, no one individual has all of the knowledge and expertise needed to develop a viable plan.¹⁹ It often takes team work, and possibly outside assistance and research. On the other hand, some businessmen simply keep their problems a secret because they anticipate excessive costs in hiring a consultant or outside help to straighten things out.²⁰

In larger businesses and industries, policy makers may view other business problems as more important, company advocates for disaster preparedness may not have the political force to be heard, and costs may seem disproportionate to the benefits.²¹ Further, top management may simply not be committed to a serious planning effort, or recognize the personal financial liability, including civil and criminal penalties, that executives may face in a disaster today.

Management can also place an overreliance on basic insurance or business interruption insurance, which will be discussed in more detail later. They may also be content to rely solely on the assistance of local (city and county), state, or federal agencies without adequate investigation of the help actually available once

a disaster strikes. The Federal Emergency Management Agency (FEMA) and the Small Business Administration (SBA) may not be particularly helpful, or at least, not respond quickly enough; certainly they are not suitable substitutes for comprehensive disaster plans. Disasters can also be viewed as just another crisis which will be handled as are other "fires" when they occur.

Human factors working against the management chore of planning include the tendency to procrastinate indefinitely, and an inability to predict the future due to uncertainty, hesitancy to be creative, and a lack of experience with a serious disaster which might trigger some urgency. Planning can be thought of as a "straightjacket" which limits flexibility, too.²²

From a larger strategic perspective, management may not think of disaster planning in terms beyond a set of guidelines for limiting negative exposure in the media, or a simple recall list of phone numbers.²³ Disaster planning is also often not considered important enough to be included in the company's overall "business plan." One other major reason is that no government agency or laws mandate that most businesses and industries prepare disaster plans.

Unfortunately, executives may not feel morally or ethically bound to plan for the survival of their firm, either. They may disregard the safety of employees or the environment. And, management may not feel a responsibility to its customers by planning to survive or continue business operations uninterrupted.

Many firms today rely heavily upon contractors which handle their operations. For instance, many companies place almost total

reliance on maintenance contractors, hazardous material disposal and transport firms, and public utility workers as previously discussed, for crisis prevention or disaster recovery actions. Firms may also feel contractors, rightly or wrongly, are responsible for their firm's safety and training.

One of the supposed success stories of the 17 October 1989 San Francisco Bay Area earthquake involved Safeway grocery stores. Many of the Safeway stores were reported to have returned to normalcy **without elaborate plans**; simply relying on the good judgment of its local managers. However, 140 of the company's 240 stores suffered damage, with 30 stores closing, and many others losing electrical power for days, which was particularly detrimental to needed refrigeration in the stores. Vital services were restored to the public, such as providing water and food, in 48 hours in only some cases.²⁴ What might have happened if Safeway had a viable, comprehensive disaster plan for the stores in the earthquake-prone San Francisco region? Would more stores have remained open and backup power been available?

THE ROLE OF GOVERNMENT

In contrast to many other nations, the U.S. is relatively decentralized. Today there are over 82,000 separate forms of government at the local level spread throughout the U.S. This decentralization promotes a lack of standardization, and inhibits to a great degree, the function of federal leadership.²⁵ This is truly the case in regard to disaster planning for businesses.

In cities, the city manager, emergency preparedness coordinator, or the fire chief have emergency response leadership roles. Counties have full-time emergency preparedness coordinators 44.3 percent of the time, or part-time coordinators 33.3 percent of the time.²⁶ All states and territories of the U.S. have emergency preparedness organizations; however, they vary in size and capability. California, for example, has a very large state emergency organization, while the Virgin Islands had only one emergency planner and no funded training at the time Hurricane Hugo struck in 1989.²⁷

Local and state governments have primary responsibility for disaster preparedness, while the Federal Emergency Management Agency (FEMA) provides guidance for plans, training, and exercises, including funding planning and training. State participation is voluntary, and FEMA has no means to ensure state preparedness.²⁸

At the present time, FEMA, state, and local government efforts are aimed primarily at disaster preparedness, response and recovery, as they relate to government activities, communities, and individuals. Guidance, for cooperation with and assistance to business and industry, is virtually nonexistent. Although there are beginning to be more efforts at cooperation with business and industry at the city and county level, there is almost a vacuum at FEMA. FEMA does not, and has not, set policy in regard to disaster planning for American business.

FEMA has published the following two handbooks for business and industry:

- o Disaster Planning Guide for Business and Industry. FEMA 141/August 1987

- o Disaster Mitigation Guide for Business and Industry. FEMA 190/February 1990

Although useful guides for firms interested in disaster planning issues, their distribution is primarily to state and local emergency preparedness offices, so their availability (or known existence) to business and industry is questionable.

FEMA's Emergency Management Institute which offers numerous training courses, offers none designed specifically for business and industry. States had also been funded in the past to conduct business and industry conferences, but agendas were never set, and there have been no conferences in the recent past.

FEMA has placed relatively minor emphasis on its role or responsibility toward business and industry, providing little funding to that area. FEMA did take a recent step in the right direction when it commissioned the firm of Ogilvy, Adams, and Rinehard to conduct a "Business and Industry Public Awareness Materials Needs Assessment." The report was published in October 1991. The next step will be to see if FEMA's senior leadership will act on the report's recommendations. Further, FEMA has been undergoing another reorganization, and it will be interesting to see how the new Clinton Administration views FEMA.

Other federal level players in the business and industry arena include the Small Business Administration (SBA), Environmental

Protection Agency (EPA), and Occupational Safety and Health Administration (OSHA).

The SBA's disaster role is primarily concerned with providing small business recovery loans to businesses which have been involved in a federally declared disaster. Funds are provided as required, demand based, from Congress. The revolving fund previously in existence was eliminated during Office of Management and Budget (OMB) Director David Stockman's tenure in office.²⁹ In fact, President Reagan would have completely eliminated the SBA during his term in office if Congress had not intervened.³⁰

There are an estimated 14.4 million businesses in this country, of which, 3.4 million are farmers, and 11 million are nonfarm businesses. Of the nonfarm businesses, 10.8 million (8.2 percent) are considered small, and approximately 99 percent of the farms are considered small by the agency's size standards.³¹ The SBA provides assistance and publishes information for many small businesses, however, disaster planning guidance gets short shrift. The SBA does not develop policy in regard to disaster planning or business resumption planning.

OSHA and EPA regularly enforce regulations on business and industry regarding safety and preparedness. And OSHA and EPA level fines at violators. They again do not establish disaster recovery planning policy. But in one recent isolated incident, OSHA proposed a new Process Safety Management (PSM) standard designed to prevent catastrophes or minimize the consequences of accidents in industries that use hazardous chemicals; the standard includes

mandatory emergency plan development.³²

The Department of Commerce, Social Security Administration, Health and Human Services Department, Department of Transportation, and countless other departments and agencies of the federal government play some limited roles, directly or indirectly, related to disasters. Their actions are not guided by a stated U.S. policy either, though, as previously mentioned.

In summary, no one department or agency sets disaster related planning policy for the federal government. In fact, it is virtually nonexistent. The importance of disaster planning for business and industry is not recognized as a serious issue or perceived as an immediate problem despite the staggering costs to the U.S. economy and its effect on national security. States and local governments have been relegated the task of dealing with business and industry, but again, the system is haphazard and occurs only in isolated incidents. When business and industry do cooperate with state and local government, the results are usually mutually beneficial. Various federal and state government agencies are beginning to individually tighten financial, safety, and environmental regulations though, primarily due to a lack of planning by business and industry.

IS INSURANCE ENOUGH?

One result of an effective risk management program is the determination of whether or not insurance protection for the firm is necessary, and if so, how much. The decision to insure is also

an essential element of a comprehensive disaster recovery plan and a sensible business plan. There just may be no sufficient prevention or protection technology available, or the costs may be too high.³³ When either security or a disaster recovery plan are not adequate solutions alone, then insurance may be the answer.

Business interruption insurance and extra-expense insurance may be the way to address certain risks. Business interruption insurance covers ongoing expenses and lost profits when a company's normal operations are disrupted by the damage or loss of insured property, including computer systems. Extra-expense coverage provides for unanticipated expenses which occur during recovery from a disaster.³⁴ Expenses such as taxes, wages, utilities, and so on continue to accrue during the recovery phase. Business interruption and extra-expense insurance may be a cost effective solution.

A college student from Cornell University in Ithaca, New York, loaded a program on his computer in November 1988 which introduced a "computer tapeworm" into the communications network which linked colleges and universities across the U.S. His program shut down 6,000 computers and resulted in millions of dollars of lost computer time.³⁵ How do companies protect themselves from such destructive programs and computer viruses? What about other new or unusual threats? Each business and industry has unique types of operations and associated risks. Companies have to carefully review their policy and work with their insurer to get the most cost effective, comprehensive policy available. In regard to

viruses, at least until 1989, no losses had been submitted to underwriters as a claim.³⁶

The growing awareness of the environment and the trend toward protecting it, lead to the issuing of policies for man-made disasters in the recent past. However, the insurance is extremely expensive. The December 1984 Bhopal, India tragedy (a Union Carbide plant released a poisonous gas, killing over 2,000 people), in particular, caused "pollution liability" insurance for firms handling hazardous materials and wastes to increase as much as 500 percent.³⁷

Other more standard types of insurance may be the answer to a firm's needs also. They include: liability insurance for the protection of employees and customers; fire insurance; auto insurance; workers' compensation insurance to cover occupational hazards, diseases, and injury; glass insurance; burglary and robbery insurance; crime insurance; personal and key personnel insurance; fidelity bonds; and so on.³⁸ Executives have to be both knowledgeable and creative when determining their insurance needs, and when dealing with the insurers themselves.

Some firms also accept their risks and self-insure, using their own contingency funds when the need arises.³⁹ Large firms may find this an adequate solution for part of their insurance needs.

Again, just obtaining insurance is not usually the sole solution which will meet a firm's economic objectives or its social

obligations.⁴⁰ Insurance coverage is valuable only to a business in combination with a comprehensive disaster plan.

The downtown Chicago flood, California earthquakes, Hurricanes Andrew and Iniki, and so on, all contributed to severe losses in the insurance industry, and included losses due to claims from business and industry. Numerous insurers went under, causing the largest insurance failure in history.⁴¹ The point is simply that there are no guarantees that the insurance coverage your firms has purchased will be available for claims in the event of a major catastrophic disaster or series of disasters similar to those of 1992. Even the famous Lloyd's of London has been experiencing difficulties and losses--since Hurricane Hugo and the Exxon Valdez oil spill.⁴²

WHAT ABOUT CONSULTANTS AND DISASTER RECOVERY SERVICE COMPANIES

During the past 10 years, three of every five counties in the U.S. have experienced a disaster serious enough to warrant a Presidential Disaster Declaration, and disasters are considerably more costly now, as well as more frequent.⁴³

More and more executives are recognizing the risks to their firms from natural disasters and man-made disasters. In addition to increased awareness through media coverage, business consultants and associations are beginning to espouse the importance of disaster recovery and business resumption planning. Hundreds of disaster recovery consulting firms and service companies also now advertise in numerous professional journals, magazines, and

newspapers. Examples include advertisements in Computer Decisions, Infosystems, Forbes, Business Week, Computerworld, Management Review, Wall Street Journal, and so on. In addition, there have been a growing number of articles regarding the merits of planning, and examples of companies which planned successfully, either on their own or with outside assistance.

The market for disaster recovery services is growing rapidly in the U.S. and it is estimated that total annual revenues of firms that provide these services will exceed one billion dollars by 1995.⁴⁴ There are already many firms in the disaster recovery field which offer various products and services, including risk analysis, data processing recovery services, total business resumption planning assistance, safety and security services, backup data processing sites (hot, cold), educational forums, telecommunications recovery, disaster conferences, off-site records storage, disaster planning software, electronic vaulting, etc.

Disaster recovery planning in the past usually centered on data processing; however, total business recovery planning is becoming more prevalent. Disaster recovery planning is a "total organizational concern" which relates to survival of the firm, it is not just a data processing center concern. In addition to recovery plans, and backup arrangements for data processing, firms are moving into planning and backup for communications and for total organization and business function recovery.

Executives have various options available to them. Some of the choices include setting up their own planning team, with only

limited assistance obtainable from local, state, and federal government activities. Some companies can afford a complete office and computer backup site, but a more reasonable option might be to contract with a disaster recovery firm for a computer cold or hot site, or mutually agree to share facilities with a comparably equipped competitor, or join in a multicompany agreement for resource sharing. Firms may also simply purchase commercially available standard disaster recovery planning software packages to plot their course, or hire a disaster recovery consultant to do everything from risk analysis to recommending and arranging for off-site storage of records, and establishing a data processing backup site facility. The variety of options available today to counter the risks are many. The ultimate decision though, rests with company management, and senior executive commitment is absolutely essential.

There are many examples of businesses and industries which have utilized, or are now using commercially available disaster recovery plans, services, and/or products. These include Dennys, Inc., a large restaurant chain; Eli Lilly and Company, a pharmaceutical company; Charles Schwab and Company, an investment firm; Matson Navigation Company, a shipping line; utility companies; and financial institutions. The data is not available for all businesses and industries. The largest firms in the disaster recovery business, though, are Comdisco Disaster Recovery, with 1,550 clients in 1989, and Sungard Recovery Services, with 700 clients in 1989.⁴⁵

CONCLUSIONS AND RECOMMENDATIONS

Natural and man-made disasters ranging from minor to catastrophic will continue to plague U.S. business and industry in the future. The economic costs and loss of human lives will remain unacceptably high without corrective actions on the part of both government, and business and industry.

We as a nation have been slow in learning our lessons in regard to disasters. We also quickly forget the lessons we do learn. And the "it can't happen to me" syndrome afflicts business and industry, as well as individuals.

Government

The rash of disasters and increased media attention in recent years has literally forced all government activities to improve their disaster preparedness and response. Individuals involved in disasters immediately turn to government for assistance, and that help is being provided more quickly and efficiently. However, U.S. business and industry is often as unprepared as individual citizens, in the event of a disaster. But unlike individuals, they can expect relatively little assistance from any level of government. There just is no Executive, Congressional, or public outcry for business and industry to better prepare themselves for disasters, nor any educational assistance provided for business and industry executives.

The plight of business and industry and their ability to survive and continue operating unheeded is directly related to U.S.

national security. Some businesses do disaster planning, and, there are hundreds of success stories, but the dismal statistics of business losses indicates more needs to be done.

No one government agency, including FEMA, sets U.S. policy in regard to disaster planning for business and industry. This is a serious and costly shortcoming.

The efficiency of the market has always been the overriding principle for U.S. business and industry. In a market economy, individual firms are responsible for taking preventative and corrective action. But this "hands off" approach is proving too slow, and will only ensure a continued haphazard commitment to disaster planning.

FEMA must fill the policy void and assume responsibility for U.S. business and industry. Each federal agency will continue to regulate, or ignore, business and industry, in regard to disaster planning, without FEMA's leadership. In fact, without overall policy guidance, local, state, and other federal government agencies will continue to regulate as each sees fit. As an example, due to the failure of business and industry to plan to protect lives and properly handle hazardous materials and wastes, governments have begun tightening environmental and safety regulations. But, are they over-regulating and unnecessarily penalizing firms? Regulation has proven inadequate in the past, and is guaranteed to remain that way without FEMA's leadership. Individual firms do not see the connection to national security, but senior government executives should.

The evidence presented in this paper certainly suggests business and industry should prepare for disasters, and that government leadership is lacking. The following recommendations are presented as critical for FEMA to adequately address the importance of business and industry disaster planning:

First Priority

- o Assume the responsibility for providing overall policy guidance to all government activities for business and industry.
- o Establish dialogue with business and industry in order to meet their specific needs.
- o Establish communications with, and provide, policy guidance to state and local governments.
- o Expand the publication of guides for business and industry disaster planning, and improve distribution.
- o Provide detailed information to state and local governments regarding the threats in their area and encourage its dissemination to business and industry.
- o Ensure that the nuclear, chemical, utility and financial industries which are regulated and need to be regulated, are required to have comprehensive total organization disaster recovery and business resumption plans, which are regularly updated, tested and audited.

- o Consider tax incentives to promote disaster planning.

Second Priority

- o Encourage dialogue and cooperation among businesses to better plan and share resources.
- o Promote cooperation between local and state government and business and industry.
- o Establish training courses at the Emergency Management Institute for business executives.
- o Reinstitute the funding for state and local governments to conduct business and industry conferences and training.
- o Ensure business and industry are included in national emergency preparedness exercises and tests, and encourage it at the state and local levels.
- o Provide financial assistance and loans (SBA) to firms with the condition they develop and maintain a disaster recovery plan.
- o Establish a communication link with the insurance industry to assist and assess their ability to meet the needs of business and industry.

Business and Industry

Ultimately, the decision to plan rests with management. No government regulations, dictating disaster planning as mandatory,

could ever ensure the comprehensiveness, nor effectiveness of individual plans. In general, the government must make an effort to assist and educate business and industry in regard to disaster planning, but it requires the management of individual firms to have the desire to listen and learn. Business and industry should consider the following recommendations and conclusions. Business and industry:

- o Shares a responsibility with government in disaster planning and preparedness.
- o Directly benefits from establishing a dialogue with the government and the community in that they are better prepared to deal with a crisis.
- o Must plan to survive, and to protect their most valuable assets--their workers.
- o Must display by their actions a dedication and concern for the public, their customers, and the environment.
- o Should have a written policy regarding the importance of a comprehensive disaster plan because of their responsibilities to employee health and safety, continued profitability and survival, to protect the environment, etc.
- o Should take advantage of information and assistance provided by their associations in regard to disaster planning.
- o Must perform risk management assessments as a first step in disaster planning.
- o Owe it to their firm and their customers, in most cases,

to avail themselves of expert consultants and contract for commercial disaster planning products and services.

- o Should realize that their management inaction in regard to disaster planning will be countered by government action and regulation in light of the increasing severity and occurrences of disasters.

- o Must realize that it takes top executive commitment to disaster planning to ensure success.

- o Must understand that disaster recovery planning is a total organizational concern, and not just a data processing center interest.

- o Should take a close look at the types of insurance coverage available for their firms, and assess its adequacy in conjunction with a comprehensive disaster recovery plan.

- o Should work cooperatively with other firms, including competitors, to share resources in planning for disasters, and in the recovery stage.

- o Must put less emphasis on adversarial and legalistic agreements in order to foster cooperation among firms.

FINAL COMMENTS

On Friday, 26 February 1993, New York City's Twin Towers of the World Trade Center, shook from top to bottom as a huge bomb blast ripped through the structure. Since that day, the newspapers have been filled with stories about the cause of the blast, the

numbers killed and injured, and law enforcement's attempts to bring the perpetrators to justice. But just as expected, there was scant coverage of the blast's effects on the businesses housed in the World Trade Center.

Nor was there a government or public outcry that businesses should have been prepared for survival and to continue operations in spite of a disaster of such magnitude. And just as in the past, the bombing will probably be soon forgotten by most Americans -- except those who lost businesses, jobs, and loved ones or associates.

There is hope though that this disaster, one in a long string of natural and man-made disasters, will capture the attention at least of some of America's business and industry executives, and lead them to action. There is also a chance -- a slim one though -- that the Executive and Congressional Branches of our government will take note and recognize the costs in lives and dollars to our nation when businesses and industry are unprepared.

More specifically, the blast caused at least five people to die, over a thousand were hurt, and estimates of direct damage and lost profits exceed one billion dollars.⁴⁶ In addition to both temporary and permanent job losses, countless customers and clients were negatively affected, and as could be anticipated, there were both failures and success stories. Many companies could not quickly get access to their offices, computers, and files, nor even find office space to continue operations. Most banks and brokerages were reported to have adjusted without interruption, but

the Bond House Cantor Fitzgerald could only establish a temporary headquarters with most employees left at home. And the law firm of Thatcher Proffitt & Wood lost almost two hundred thousand dollars on just the day of the blast.⁴⁷

On the positive side, New York's 14 telecommunications carriers who are usually strong competitors, activated a previously agreed upon mutual aid agreement which allowed them to stay in contact and share each others' equipment and phone circuits.⁴⁸ In regard to the large banks and exchanges, most did not lose any data despite some interruptions, and were able to resume operations on Monday.⁴⁹

Demand for disaster recovery services was also high. The Bank of California and two Japanese banks utilized the Comdisco Disaster Recovery Services' large computer backup facility in North Bergen, New Jersey. Sungard Recovery Services had five customers declare a disaster to obtain assistance, and the Newport Financial Center in Jersey City, New Jersey, had two clients set up backup data centers.⁵⁰

Again, the corporate losses in just this one major disaster will exceed one billion dollars. Wouldn't it be worth the much smaller investment now on the part of both government and business and industry to ensure all firms are prepared to face disaster in the future?

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