

PREP

PLANNING FOR RESPONSE & EMERGENCY PREPAREDNESS

A Disaster Preparedness/Recovery Resource Manual

Edited by
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PREP

PLANNING FOR RESPONSE & EMERGENCY PREPAREDNESS

- i FOREWORD
- ii. ACKNOWLEDGEMENTS
- I INTRODUCTION AND CASE STUDY
- II PREPARATION AND RISK MANAGEMENT
 - A. DISASTER TYPES
 - 1. Natural
 - 2. Man-Made
 - 3. Chronic
 - 4. Catastrophic
 - B. VULNERABILITY AND PERSONNEL ASSESSMENT
 - 1. Disaster Vulnerability
 - 2. Building Assessment
 - 3. Response Time
 - 4. Personnel Involvement
 - 5. Collection and Asset Management
 - 6. Resource Consideration
 - 7. Testing and Review of your Plan
- III RECOVERY
- IV CONCLUSION

PREP

PLANNING FOR RESPONSE & EMERGENCY PREPAREDNESS

FOREWORD

The Texas Association of Museums (TAM) is pleased to offer this valuable resource manual to the field. Texas has over 700 museums, university and county historical collections, and community cultural centers, all holding items of cultural and historical significance in trust for the public. In 1991, TAM surveyed its institutional members and discovered that the majority did not have disaster plans and that many of those who did were very dissatisfied with their existing plans.

Recognizing, therefore, that disaster planning is a bit of housekeeping most museums postpone, the TAM Council committed the Association to assisting Texas museums in this area. Jack Nokes, who was President at the time, appointed an Ad Hoc Committee on Disaster Planning, naming Mary Candee and Rick Casagrande as co-chairs. They subsequently put together a hardworking committee of museum professionals from across the state, representing all types and sizes of museums. Their names are listed in the front of this manual and I thank each for his or her contribution to the project.

This manual is the first product of the committee's work, which we are offering to the museum community at large because, as the scope of the project enlarged, we felt it would be useful beyond the state borders. The committee has also planned two workshops—one on preparedness and a second one on recovery—that will use this manual as a planning tool.

I want especially to commend Mary Candee and Rick Casagrande for their dedication to this project over a number of years and for the countless volunteer hours they have poured into the project. They first made the TAM Council aware of the need of Texas museums for help in disaster planning, conceived this project, sought funding for it, supervised the committee, and edited the resource manual. This sort of commitment is extraordinary, yet typical of these individuals and loyal TAM members in general. I also wish to thank TAM Executive Director Margaret Blagg for contributing her time and talents as executive editor for the manual.

Several institutions have graciously allowed us to reprint their material—disaster plans and planning forms—in this manual. TAM shares these in the spirit of general museum generosity, but I caution you to use their material only as a starting point in developing your own materials. I expect that you will learn much from the collective experience of those who developed the plans and forms reprinted here; but, disaster planning is a process, not a collection of forms. I encourage all users of this manual to start that process right away within your institutions.

Gary N. Smith, President Texas Association of Museums, 1993

PREP

PLANNING FOR RESPONSE & EMERGENCY PREPAREDNESS

ACKNOWLEDGEMENTS

There are many people and organizations who assisted in bringing this project to fruition. First and foremost, we send our gratitude to all the members of the Ad Hoc committee on Disaster Preparedness/Recovery who provided their expertise, suggestions, and hours of time. Their names are listed in the front of this manual. As with all committee projects, there were some members who provided extra efforts. We want to especially recognize Patrick Butler, Larry Francell, Dr. Paul Katz, Sally Shelton, and Carolyn Spears for providing invaluable text material for the final product. Virginia Mize, Elisa Phelps, and Sherry Humphreys also came to our rescue in many ways. Milan Hughston and AMIGOS Bibliographic Council staff member Thomas F. R. Clareson collaborated on the selected bibliography.

In the initial phases of the project, Dr. Katz, Sam Daleo, Carolyn Spears, and Larry Francell provided tremendous assistance in assembling and compiling preliminary information. Jimmie Picquet assisted greatly in drawing up the original plan for a video conference. Our speakers for the planned workshops will be invaluable resources: Dr. David Gracy, Patricia Terry, Toby Murray, and Barbara Roberts.

A project of this nature requires underwriting from a variety of sources. We are very grateful to the Institute of Museum Services, a federal agency, which contributed funding to this project through a Professional Services Program grant. In addition, Chubb Group of Insurance Companies provided major assistance to the project. The Collection Managers Committee of TAM has been supportive of the project from the beginning, and will underwrite the 1994 and 1995 workshops. In addition, the ongoing financial assistance to TAM of the Texas Commission on the Arts, and loyal members, enables the TAM staff to support this important committee project.

We also wish to acknowledge those organizations and institutions that generously allowed us to reproduce their materials in this manual. They are: The American Airpower Heritage Museum (for the Confederate Air Force Museum plan); American Association of Museums, Technical Information Service; American Institute for Conservation of Historic and Artistic Works; Blackmon-Mooring-Steamatic Catastrophe, Inc.; Canadian Conservation Institute; Chubb and Son, Inc.; McFaddin-Ward House; Mountain-Plains Museums Association; Northeast Document Conservation Center; Oklahoma Museums Association; Southeastern Library Network, Inc. (SOLINET); Texas State Library; University of North Texas Libraries; University of Tulsa Library; Western Association for Art Conservation; and West Texas A&M University.

Finally, we send a special thanks to the staff of TAM, Margaret Blagg, Debbie Welchel, and Sally Baulch.

The Editors

PREP

PLANNING FOR RESPONSE & EMERGENCY PREPAREDNESS

INTRODUCTION

Museums across the country face a variety of potential disasters. Recent examples are the devastating winds and tides of hurricanes in Florida, Louisiana, and South Carolina; the powerful earthquake that rocked San Francisco and the Bay Area; the fires that ravaged the hills of Oakland; and the terrible floods throughout the Midwest. We are also reminded that museums are not exempt from terrorism, as we hear of bombings in Europe.

Hurricanes, floods, tornadoes, and other forces—natural and man-made—pose threats to valuable museum resources. Experience and common sense demonstrate the importance of a swift and coordinated response in order to minimize injury and damages to patrons, staff, museum objects, and facilities. However, such a response is not possible without thorough pre-disaster planning, organization of response networks, production of written disaster preparedness/recovery plans, and training in preparedness and recovery response.

It has long been a vision of TAM members Mary Candee and Rick Casagrande to produce a Disaster Preparedness and Recovery resource manual for museum colleagues. They proposed a project to publish a resource manual and series of workshops to the TAM Council in 1989. The TAM Council agreed to explore the idea, and in 1991 an Ad Hoc Committee on Disaster Preparedness/Recovery was formed to assess the need for such efforts in the Texas museum community. This committee conducted a phone survey of 102 institutional members of TAM. Of 82 museums responding, 49% indicated they had disaster preparedness/recovery plans; however, only 7% of these indicated they were definitely satisfied with their plans, while 28% indicated they were “very unhappy” with their current plans as they now exist. In addition, 51% had no plans at all, 65% had no resource lists, and over 50% did not conduct staff training. For those who did conduct training, this usually consisted of emergency exit drills and training in the use of fire extinguishers. Eighty-six per cent of the respondents expressed a strong need for and interest in participating in a workshop addressing both disaster preparedness and recovery.

Based on the survey the committee designed a project for TAM that included sponsoring two workshops addressing disaster preparedness, response, and recovery, as well as producing a resource manual to assist in developing a site-specific disaster preparedness and recovery plan. Funding was sought and received from the Institute of Museum Services to help underwrite the project. Important corporate sponsorship of the project subsequently from Chubb Group of Insurance Companies and Blackmon-Mooring-Steamatic Catastrophe, Inc.

This manual is meant to serve as a guide for producing site-specific plans. The three-ring binder format was chosen so that material can be added as new information is published. Please note that some forms are duplicated in the Sample Plans and in the Forms and Supplementary sections of the manual. This is intentional for ease of use and ready access by topic.

PREP

PLANNING FOR RESPONSE & EMERGENCY PREPAREDNESS

This Resource Manual is meant to stand alone, as well as to serve as the foundation for the workshops to be presented in 1994 and 1995 at the TAM Annual Meetings. The Editors hope that it will enable readers to develop a thorough plan for their own institutions.

DISASTER PLANNING CASE STUDY: WICHITA FALLS MUSEUM AND ART CENTER

THE EVENT

On April 10, 1979 the City of Wichita Falls, Texas was hit by a tornado of major proportions. Southwest of town, three smaller funnels joined to create one of the largest tornadoes on record. Even with advanced warning, over forty people were killed, dozens were injured, and hundreds of buildings, mostly homes, were destroyed as the storm crossed the city from west to east. This tornado was tracked on the ground for more than fifty miles.

The Wichita Falls Museum and Art Center is located in a park setting across from Midwestern State University. The Museum shares a boundary, along a pond, with the home of the President of the University. At the time the Museum was approximately 20,000 square feet, with exhibit spaces for art, science and history. There is also a planetarium and education wing with three classrooms. The balance of the building housed offices, storage, and work space. There was a staff of nine.

The Museum was on the north side of the storm track, and was hit at 6:05 p.m. By that time all employees had left for the day. The layout of the building is such that the Shipping & Receiving, Carpenter Shop, Exhibit Preparation Area, and Collection Storage are on the southwest corner. These areas were essentially undamaged. Elsewhere the destruction was severe. The roof of the rest of the structure was torn off, the planetarium, with new Spitz equipment, had collapsed, and the storefront entrance to the Museum was destroyed, as were the glass window walls of the classrooms. The rear wall of the structure at the southeast was blown out of vertical and plumb. The Museum landscape was destroyed, although in the entire scope of things this was a minor problem.

Of the nine employees, five were directly affected. The apartment complex where the Curator of Education lived was totally destroyed. She was immediately able to find her cat and salvage one suitcase of clothing, where upon she walked to safety. The Museum's secretary lost her house, her residence for over twenty years. For the most part, the balance of the damage sustained by staff was missing roofs. The Director was able to see the storm pass and was able to return to the Museum before emergency services could barricade and isolate the 20% of the community that was devastated.

INITIAL RESPONSE

At the time of the tornado, the Museum had a rudimentary disaster plan. This plan called for the disconnect of all utilities, plywood to "board up", protection of the collections, and a reporting mechanism for staff. However, when the time came, even this simple plan

PREP

PLANNING FOR RESPONSE & EMERGENCY PREPAREDNESS

had to be revised to meet circumstances. Luckily for the community, the storm had severed most of the electrical transmission lines into town. This not only cut the power, but also prevented fires, which would have added to the problems. In another circumstance unusual for tornadoes, there was no significant rain. At the Museum, it was not necessary to cut off the flow of natural gas because the storm had taken the meter from the ground, leaving the line open. The first action taken was to barricade the area to keep automobile ignitions or careless smokers from creating an explosion. All of the utilities were buried, so there was still telephone service. Once the gas company was notified, they were quick in their response.

The second action was to walk the building, making notes about damage and ways of securing the collections and exhibits. The last thing done that first evening was to create a base of operations and place to camp out in Shipping & Receiving. For the first two weeks, overnight security and daytime cleanup was handled by members of a Boy Scout Explorers Post, one of whom worked for the Museum after school. The Museum came to rely upon these boys as vital to the recovery effort.

During the course of the first day, the Boy Scouts removed debris. Volunteers from the University Art Department, working with the Registrar, removed the art collection to the vault of the Savings and Loan. The Curator and Exhibit Technician planned for exhibit removal against the day it would inevitably rain, and total damage and removal priorities were assessed by the Director. The first weeks continued with these activities, except for two specific days where the whole staff helped those hit by the storm clean up or move. The main task for the Directory, besides supervising recovery, was to deal with insurance and to bring the original Contractor and Architect on board to begin reconstruction.

The community-wide nature of this disaster took much of the planned response out of our hands. The whole destruction area was cordoned off, with entry by permit only. This made it hard for volunteers to respond initially. The demand for construction materials meant that the Museum had to compete for limited stock. The loss of staff time, as several took care of their own personal disaster, severely hampered recovery, and the inability of at least one staff person to cope with the devastation and confusion lent yet one more roadblock to recovery.

RECOVERY AND RECONSTRUCTION

The concern by the Museum staff for their jobs and the community-wide nature of this disaster in part dictated the terms of the response. To keep staff employed and productive, the Registrar and collection management operations moved to a local savings and loan business where a spare office was offered. A private school in the immediate area was rented for the summer in order to continue the education program. This was funded by a National Endowment for the Arts grant that allowed for greatly expanded offerings at a time when other community activities for children were severely curtailed. National Endowment for the Humanities, Institute of Museum Services, and Sid Richardson Foundation grants allowed for the purchase of a temporary building and office equipment. This allowed normal business and membership activities to go forward,

PREP

PLANNING FOR RESPONSE & EMERGENCY PREPAREDNESS

as well as providing a base for reconstruction administration. The balance of staff, the carpenter, exhibit technician, and maintenance person, were assigned various tasks from construction supervision to cleanup.

Two issues became paramount during the recovery and reconstruction. The first was insurance. The Museum used a local agent, and took care to update coverage every year—a lesson learned as a result of a fire in 1973. However, when this major disaster struck, we found that the Museum was still underinsured and faced with a co-insurance penalty that we could not afford. Through the efforts of our agent, and the fact that there had been annual reviews, this penalty was set aside and the insurance company provided full loss coverage. In the meantime, contributions to the recovery effort began to arrive, leading to the second issue.

The Wichita Falls Museum and Art Center had an active Long Range Planning Committee and a Long Range Plan that called for the expansion of the Museum. With the insurance problem solved and unsolicited contributions arriving daily, the Long Range Expansion Plan was activated, and the Museum launched a fund raising effort. In the midst of a disaster this might appear to be inappropriate; however, the nature of the catastrophe and the role of the Museum in the community were such that the Museum's comeback became a symbol of the spirit of recovery for the whole city.

LESSONS

Although the Wichita Falls tornado was a specific disaster in a specific place, several general concepts that relate to any emergency may be inferred.

A written disaster plan is absolutely necessary, even if it is merely an outline. If necessary, do not wait until a completed plan is written, but rather begin with the outline of the plan for training staff.

Cross training for emergencies is critical. During a real disaster, some individuals considered to be key to success or possessing the skills most necessary at that moment will not be available. They may not be available for the duration of the emergency, so someone else must be able to fulfill these roles.

Under the best of circumstances, a Disaster Plan should only be considered as a basic reference. Reality will seldom match the circumstances for which we plan. To adhere strictly to the written word when actual fact dictate otherwise is not a responsible way to respond. The best plan in existence will not cover all contingencies or foresee all problems, so the ability to adjust rapidly is essential.

Regardless of the depth or breadth of a working plan, the minimum any institution should have is a list of resources and emergency agencies, and how they can be contacted.

In great measure, the way a person responds to a disaster is less dependent upon what is planned on paper, and more dependent upon attitudes and a mental state that allows one to deal with adversity and confusion.

In an emergency, one person must be in charge. This person must be someone who can handle this situation.

In other glaring lessons learned is that disaster planning must clearly delineate the goals

PREP

PLANNING FOR RESPONSE & EMERGENCY PREPAREDNESS

to be achieved during recovery. There must be direction, and objectives to achieve, past the initial reaction and cleanup. Based upon practical experience with this one specific disaster, the following became the recovery priorities.

Consolidate collections, furniture, and equipment, and exhibit materials into spaces that could be secured and made water-tight. If such areas are not available, look for space in the community, especially banks or large retail merchants

The building must be made secure, with 24-hour guardianship and a permanent perimeter, even if cleanup and recovery cannot begin immediately

Keep the Museum operating and the staff working. By renting a private school and expanding education programs, the Museum made a significant impact on a community in need. By continuing a newsletter and membership activities, and assigning other staff to exhibit planning and construction, supervision we were able to assure everyone that they had a job and would be useful and productive.

CONCLUSION

In conclusion, all that is known for sure is that your disaster will be different from every other disaster so, if you can, plan accordingly.

*Larry Francell
September, 1993*

PREP

PLANNING FOR RESPONSE & EMERGENCY PREPAREDNESS

PREPARATION AND RISK MANAGEMENT

Assessing potential disasters cannot be underestimated as a beginning point for starting a disaster plan, yet risk management is not a topic with which most museum people are generally familiar. – Larry Francell, former director of the Wichita Falls Museum and Art Center, site of a devastating tornado in 1979.

Assessing risks and preparing for disasters are the primary tasks in developing an effective disaster preparedness and response plan. As museum professionals, we are necessarily preoccupied with the work of curating, exhibiting, and interpreting our human and natural heritage to the public and are therefore not likely to contemplate the likelihood of a tree falling on our structure or the frequency of hurricanes, much less the necessary steps to prepare or respond to such crises. We must, however, take time to develop a strategy to ensure the safety of our patrons, staff, collections, and facility. This manual provides the tools to develop a site-specific strategy to minimize losses. The pragmatic approach called for in developing a plan will require a strong commitment of staff and resources.

This section of the manual will address:

Disaster Types

Vulnerability

Personnel Assessment

PREP

PLANNING FOR RESPONSE & EMERGENCY PREPAREDNESS

DISASTER TYPES

A disaster plan must distinguish between strategies used to mitigate the effects of disasters that cannot be avoided (usually structural or natural) and strategies set up to prevent a disaster (usually man-made) from occurring in the first place. The first step in preparing a disaster plan is to be aware of the many types of disasters that could affect your museum. Once you have identified the types of disasters most likely to occur, you can tailor your plan to address these priorities.

The following list of disaster types is based in part on *A Systematic Approach to the Conservation (Care) of Museum Collections* by Stefan Michalski, published by the Canadian Conservation Institute in 1992. Notice that, though the causes may be different, there is some overlap in the effects of various disasters. Most importantly, there is no substitute for a well trained staff, a regular review and upgrade of facilities, good building design, and Willamette cases. These will not prevent all disasters, but will keep some from happening and will mitigate the effects of the rest.

1. NATURAL: Focus on mitigation and response.

Flood and other forms of water damage

Water damage can occur from flooding after severe rainstorms, snow melt, and/or rising waters. It also occurs when sprinkler systems are set off in a fire or when water is used to extinguish flames. The latter two may be unavoidable, which is why they are listed both here and under man-made (preventable) disasters.

Tornadoes, hurricanes, and other weather emergencies

These extreme weather emergencies include the effects of high winds, whether straight or cyclonic, the physical effect of hail, and the effects of wind-borne dust and sand (acting as an abrasive and contaminant).

Geological emergencies

This includes the effects of earthquakes, subsidence, and landslides on the structural integrity of the building and on the collections.

Fire

This category is reserved for fires arising from outside combustion (i.e. forest or grass fires that threaten the museum's security). Damage from any fire includes not only combustion, but also damage from smoke and from high heat levels, as well as from toxic fumes arising from burning structural materials. There is also the risk of igniting explosive or volatile materials.

Building failure

This can include the collapse of ceilings, floors, and walls as the result of structural weakening from physical stress or aging.

PREP

PLANNING FOR RESPONSE & EMERGENCY PREPAREDNESS

2. MAN-MADE: Focus on preventive measures

Direct physical force: shock, vibration, abrasion, gravity

This is usually the result of poor storage or handling, causing damage to the physical integrity of objects, collections, or structures.

Theft, vandalism, bomb or weapons threat

A breach in the access security of a building may be either the cause or the effect of this category of disasters. Museum property may be defaced, mutilated, or stolen. In extreme cases, firearms or explosives may be used to endanger lives as well.

Fire

Man-made fires can result from improper disposal of smoking materials, sparks from arc welding, accidental combustion of volatile or explosive materials (many of which are used in preparation, exhibition, and conservation), or arson. Damage includes direct heat and combustion effects, smoke damage, and water damage.

Water

Preventable water damage can occur when fire fighters use high-pressure hoses to extinguish a fire, plumbing pipes or fixtures leak or rupture, or fluids are spilled onto museum materials.

Medical emergencies

This includes the effects of sudden illness, injuries, and accidents, either connected to a disastrous event or happening in isolation. This is a crisis for the affected individual and for the museum, which may be liable for unsafe conditions or inability to provide acceptable first-responder (such as first aid) care. Some situations can be prevented by planning and redesigning public areas, providing appropriate access structures, isolating attractive-nuisance features from access, and requiring staff training in first aid and CPR. Many medical emergencies are unforeseeable and unavoidable.

Power outage

Possibly connected with other disasters, the effects of a power outage range from minor annoyance to life-threatening emergency. Effects may include shutdown of electrically controlled points of access/exit, loss of computer access and information, loss of phone systems, disruption of security systems, increased risk in maneuvering through buildings; and the trapping of people in elevators.

Chemical emergencies

The effects of spilling or otherwise releasing potentially harmful chemicals may be extremely serious, causing medical emergencies ranging from dizziness and nausea to shortness of breath, unconsciousness, severe burns, or death. In addition, the museum may be held liable for long-term health impairments resulting from chemical exposure on its premises.

PREP

PLANNING FOR RESPONSE & EMERGENCY PREPAREDNESS

3. CHRONIC

Contaminants, pests, radiation (visible light, UV, and infrared), incorrect temperature, and incorrect relative humidity may not seem like disasters until their effects are experienced. If no preventive measures are taken, all can damage or destroy museum materials just as thoroughly as a more obvious short-term disaster. The strategies that are used to protect against their effects are similar: prevention of exposure and control of internal environment.

Pest damage

Pests are almost always preventable and almost always manage to be present. To survive in a museum, pests need access, food, and habitat. Prevention centers on blocking these. Pests may include, but are not limited to, microorganisms (e.g. bacteria and fungi), insects and spiders, rats, mice, bats, and nesting birds.

Contaminants

Building failure can occur over time by exposure to severe atmospheric acid precipitation, particularly if the building material is limestone, marble, or other acid-sensitive substance. Radon is a feature of many areas located over naturally radioactive geological deposits and may permeate the building. Soluble salts in structural materials may migrate to the surface of building stone, and causing it to spill and fail. Contaminants include both external pollutants (particulates in the air, acid precipitation, smoke and smog, and toxic fumes) and internal pollutants (smoke, formaldehyde, solvent fumes, radon, asbestos fibers, even oxygen or ozone for some materials).

Radiation (background, visible light, UV, infrared)

The amount of background radiation will vary directly with the site's elevation above sea level. Exposure to radiation can cause fading, yellowing of certain materials, embrittlement, or cracking, and, sometimes, the loss of sensitive materials.

Incorrect temperature

Temperature fluctuations are often a normal weather feature and may be sufficient to initiate building failure. Frost heaving of building materials is also a serious problem. Temperature damage occurs when severe fluctuations cause materials to fail after repeated expansion and contraction; when inappropriately high temperatures cause increased reaction rates and heat damage; or when below-freezing temperatures cause water in materials to expand.

Incorrect relative humidity

Like incorrect temperature, this is often correlated with external fluctuations. In buildings without climate control or air handling systems, especially older or historic structures, this can be one of the major causes of damage. Relative humidity damage occurs when repeated and severe fluctuations cause material failure; when a low relative humidity leads to drying and cracking; or when a high relative humidity increases reaction rates and/or provides an environment for microorganisms to attack materials.

PREP

PLANNING FOR RESPONSE & EMERGENCY PREPAREDNESS

4. CATASTROPHIC

Human catastrophes (catastrophic accidents, war) are considered to be the most destructive events, and, one hopes, the rarest. Unanticipated events, such as ground or air vehicle crashing into the building, fall into this category, along with acts of terrorism and vandalism. None of these can be prepared for specifically, but a good risk management plan can deal with their effects.

SPECIAL NOTE: Synergistic effects

Often, disaster effects are magnified greatly because disasters combine categories. The damage from a storm may include wind and water damage, structural damage, fires, and exposure of materials to environmental factors. Devastating problems require first response, but they may mask ancillary and more creeping forms of damage. Always look beyond the obvious damage for other forms of damage that may be occurring during and after a disaster.

PREP

PLANNING FOR RESPONSE & EMERGENCY PREPAREDNESS

DEVELOPING A SITE-SPECIFIC PLAN

Begin with a statement of priorities and proceed to the assignment of responsibilities.
-Chubb Group of Insurance Companies

There is a sequence of operations and activities that should be followed to assess the vulnerability of a museum to disasters, emergencies, and hazards of all types. This section will outline the following steps:

- determining and ranking the likelihood of disasters, hazards and/or other emergencies in your area
- completing a site/facilities/buildings assessment
- estimating site location/distance and response-time considerations
- reviewing personnel abilities, training needs, and responsibilities
- assessing assets and collection materials, including a review of current insurance, and documentation and prioritization of assets
- investigating resource availability
- testing and revising the preparedness, response, and recovery plans

1. DISASTER VULNERABILITY

It is neither feasible nor reasonable for most museums to plan equally for every conceivable disaster, emergency, or hazard. Therefore, one of the first steps in developing your preparedness plan is to rank the likelihood of certain disasters to occur in your area and/or to your institution. Those disaster types of highest risk should be given more detail in the planning document, more response training, and more allocation of resources.

One source of information concerning potential disasters in your area may be obtained from your local or regional emergency management group. According to the "Local Emergency Management Plan Development Handbook," Texas Department of Public Safety, 1990, "...state law requires every political subdivision in the state to prepare and keep current a local or inter-jurisdictional emergency management plan "These emergency management groups will be able to provide you with general information, including the public emergency management plans. Your site plan and the public emergency plans should be coordinated for maximum efficiency.

2. BUILDING ASSESSMENT

An objective, critical assessment of your facility will provide you with a foundation of information from which to respond to potential disasters in your area.

For a fairly thorough building assessment, we suggest completing a Standard Facility Report, adopted by the Registrars Committee of the American Association of Museums in June, 1988. This completed report will provide detailed information that will serve

PREP

PLANNING FOR RESPONSE & EMERGENCY PREPAREDNESS

well in preparing and responding to variety of critical situations. In addition, several other examples of building and site inspection forms have been provided in the Appendix. You should review these examples in order to develop a form or checklist specifically designed for your institution.

A basic knowledge of structures, building types, and materials is useful. If no one on your staff has such knowledge, then the assessment of the museum should be done using someone from the community who is familiar with construction and design. Ideally, you may want to involve the original architect and contractor. If this is not possible, you may wish to obtain the assistance and expertise of a local architect or architectural firm. Trustees can often help in this regard.

A building assessment that takes into consideration the nature of the construction, coupled with an assessment of the most likely disasters to befall it, will help you in preventing and mitigating disasters. It is essential that you know your facility. Do you have wood framework between a masonry shell? If you don't know, you may be in for future problems.

The staff of the museum should possess a set of building plans. These should include the basic site plan, as well as architectural, structural, mechanical, and electrical plans. Several staff members should be familiar with these plans so that they can mobilize efforts to prepare and respond to the situation at hand. It is important to have several sets of plans available, including at least one set kept off-site because the on-site set may be damaged, destroyed, or rendered inaccessible in a disaster.

Specific points of vulnerability must be considered, including entrances/exits, pipes, wiring, windows, and glass. These are particularly susceptible to various damage. Conversely, it is important to assess the strong points of the structure for use as an emergency shelter since it is likely that the building will be occupied during some types of disasters. Every type of structure has its strengths and weaknesses, and a disaster plan should be written with these issues in mind.

You should routinely make a thorough inspection of your emergency equipment and supplies. This includes lighting, exits, response supplies, and fire detection and suppression systems. If your emergency materials do not work or are inaccessible, it is unlikely that your plan will successfully minimize the impact of a disaster.

3. RESPONSE TIME

Good disaster planning will take into account the location of the nearest fire, police, and medical services. It will be important to know the estimated or average response time for all emergency services for effective planning. In addition, since not all disasters occur during working hours, staff response time must be considered as well. Take into account, too, that if a community-wide disaster has occurred, municipal services will be severely taxed, and your museum may not receive priority.

PREP

PLANNING FOR RESPONSE & EMERGENCY PREPAREDNESS

Involve personnel from the fire and police departments in the development of your Preparedness and Recovery Plans. They can provide a wealth of helpful information, and their familiarity with your institution as a result of their involvement may insure a faster response time in an eventual disaster. Give these officials a thorough tour of your facility, and address sensitive issues and special concerns with them. This sharing of information can facilitate the recovery procedure and mitigate potential loss from improper handling or response procedures. Review your plan and salvage priority with the emergency personnel in your community regularly, or whenever there is a major change in staff, facilities, and/or holdings within your institution.

4. PERSONNEL INVOLVEMENT

Staff assessment, training, and responsibilities

You will need to assemble different teams: one for planning, another for preparing your site for the ensuing disaster, another for immediate recovery efforts, and yet another for long-term recovery. The planning team should involve most if not all members of your staff. For the next two types of teams—those that function in the face of an emergency—remember that routine staff responsibilities and roles will likely shift to very different roles during a disaster. The jobs necessary to accomplish certain tasks in the face of a disaster will have defined responsibilities (and staff assignments). Keep in mind that some staff members operate better under stressful situations while others crumble in a crisis. With that in mind, you will be able to identify the emergency tasks, then assign the appropriate, capable staff member, trustee, and/or volunteer to carry them out.

In a small museum, these four teams are likely to be the same individuals—perhaps the entire staff, in different configurations. In larger institutions, the makeup of each group may differ, but ideally each department or segment of the institution should be represented on all teams.

You should also be aware that designated members of the Preparedness and/or Response Teams may not be available at the time of the crisis. They may be on vacation or, in the case of a community-wide disaster, individual staff members may be directly affected or will be preparing their own homes for the ensuing disaster. Therefore, whether in small or large institutions, cross-training is strongly recommended. Everyone on staff should be familiar with the entire Preparedness and Recovery Procedures, and staff should be trained to perform more than one emergency task. Typically, key responsibilities should be defined so available staff will be able to step in and accomplish the job at hand. This is commonly called the “Incident Command System” (ICS), which is a system of planning organized by areas of responsibilities rather than by individuals.

Adequate preparedness or response to a disaster depends in many ways upon communication and teamwork. Your Preparedness and Response Teams need clear definitions of tasks and areas of responsibility. Leadership is essential, as is a clear

PREP

PLANNING FOR RESPONSE & EMERGENCY PREPAREDNESS

understanding of everyone's roles and responsibilities. The teams will need to have a complete understanding of the disaster plan, including changes and revisions as they are made. They must know where all pertinent records, tools, materials, and supplies are kept. Again, everyone should be able to perform more than one task. No time should be lost in responding to an emergency.

Minimum annual training for all staff should include:

- disaster preparedness drills for likely disaster(s) *
- procedures for notifying emergency personnel, fire, and police evacuation drills
- medical emergency procedures, with at least one person on staff with standard first aid and CPR training and, if possible EMT (Emergency Medical Technician) training
- emergency utility cut-off drills
- emergency supply check
- tests of fire suppression and security systems
- other (i.e., installation of storm windows, emergency relocation of collections and exhibits, etc.)

It is important to conduct "in-house" drills at least annually and to review and revise the plan whenever staff or circumstances change (such as an addition to your facility). A disaster plan is not static, but must grow and change with the institution and over time. You may consider having one individual or a small team responsible for overseeing the Disaster Preparedness and Recovery Plan for your institution.

** In many communities, disaster preparedness agencies, such as the fire department, conduct drills. You may want to volunteer the museum and its staff for such an exercise.*

Trustee assessment, training and responsibilities

The role of the museum trustee can be of vital importance in disaster preparedness, response, and recovery efforts. Museum trustees are community leaders who have an affinity for museums and can be resources for obtaining names, addresses, locations, telephone numbers, and permission for the use of people, equipment, and monies needed at the time of disaster. As bearers of fiduciary responsibility for the museum, they should assist in all phases of your plans, from development to practice. They, too, must have a thorough understanding of the plan, the roles and responsibilities of all involved, the tasks and duties that need to be accomplished. Trustees can fill sand bags, or they may serve as the spokesperson for the institution. In smaller museums, with little or no paid staff, trustees may assume roles taken by staff in larger institutions. Whenever possible, trustees should participate in any training drills that the staff and volunteers undergo.

Volunteer assessment, training, and responsibilities

Volunteer training for emergencies, like staff and trustee training, should be coordinated by staff responsible for the plan and should be included in the volunteer training manual. Guidelines for volunteers should be simple and involve volunteers only under the direct

PREP

PLANNING FOR RESPONSE & EMERGENCY PREPAREDNESS

guidance of staff. The staff supervisor of the volunteer should be the point person for instruction. In the event that staff person is unavailable, a clear chain of command should be established and made clear to all volunteers. The listing of responsibilities should be posted in a volunteer area and should be in the volunteer manual. In the event of a major emergency, staff may initiate volunteer involvement and set off a calling chain/phone bank to request volunteers to come to the museum. Volunteers already on-site should seek instructions from their point person, or the person present who is the highest on the chain of command.

Visitor-related assistance:

- crowd management
- visitor safety
- evacuation of visitors to an outside safe point
- removal of visitors to an internal safe point
- retrieving flashlights or emergency lighting
- standing at post positions to provide necessary lighting for evacuation
- answering phones

Preparatory assistance for large (weather) disasters:

- boarding up or taping windows

Behind the scenes assistance:

- volunteer support groups may be enlisted to assist in laying out, drying out, and separating collection artifacts (under curatorial or the registrar's guidance)
- general grounds clean-up

Clear time frames for putting things back in order and well-defined "quitting" times for a work day should be included to avoid burn-out and stress-related morale breakdown. As always, staff, trustee, and volunteer assistance in the event of a disaster should be recognized and efforts rewarded.

5. COLLECTION AND ASSET MANAGEMENT

In addition to assessing your building and staff, it is important to review your institutional materials, equipment, supplies, computer hardware, software, institutional records, other capital equipment, and, particularly, your collections in storage and on exhibit to ensure their protection and safe recovery.

Insurance

*"...Insurance can minimize the negative impact of a variety of disasters."
Gail E. McGiffin, History News, February 1993*

During the best of times, insurance can be a complicated issue. This is only compounded by a disaster. Insurance is usually unique to the institution and needs special

PREP

PLANNING FOR RESPONSE & EMERGENCY PREPAREDNESS

consideration when creating a disaster plan. **Work with your insurance agent to clarify the amount of coverage, any exclusions, and the deductible limits of coverage in your policy.**

Staff members familiar with the facility, collections, equipment, and personnel should walk through the museum with the agent to review the site and discuss any possible problems and concerns. Considerations include: adequate coverage (liability, dwelling, collections, equipment); co-insurance; self-insurance; loss mitigation; damage documentation requirements, and loss settlement, to name a few. It is beyond the scope of this manual to define and discuss these factors, but you should ask your agent about them and make sure your museum is adequately covered for all contingencies.

Document your assets

A first step in developing a disaster plan is to document your assets fully. This includes proper record keeping, as well as some form of visual documentation. You may wish to consider using manual and/or computer records as well as a variety of visual media (35mm black & white prints; color slides; color prints; or possibly video tape). The ability to recover on insurance may depend upon proper documentation. It is extremely important to store a copy of your records and/or the negatives of your assets off-site.

Documentation must also occur immediately after a disaster, as well as during the salvage, relocation, and conservation phases. This is important for insurance coverage, as proof of prudent and timely action will be paramount in loss mitigation. Documentation of materials affected by the disaster may aid in determining the cause of deterioration. Finally, documentation is important as a historical record and is part of prudent fiscal care and management. One or more staff members should be assigned this priority duty.

Prioritization of assets

You will have to examine your museum in its totality to determine salvage priorities. Depending on the type of disaster, you may conclude that records and documents have priority. In any case, you will have to weigh various values (historic, scientific, artistic, and financial) before considering salvage priorities and recovery procedures. Salvage priorities may depend upon location within the museum and susceptibility to specific disaster type.

Collections and collection records are likely to top the list for immediate salvage. Even more appropriately, the institutional and collection records and documentation should be duplicated and kept current at another fire- and waterproof location. The salvage priority list must be agreed upon in the planning process, understood by all staff, and kept current.

The staff and the board should establish criteria for making these decisions. Issues above and beyond value will need to be considered and might include size, accessibility, and

PREP

PLANNING FOR RESPONSE & EMERGENCY PREPAREDNESS

possibility of damage in movement. In some cases, the structure may be the primary collection piece and will therefore have precedence over other holdings. Loaned items may be given priority. **Don't wait for an emergency to determine these priorities!**

Once priorities are determined, consider how and where the materials will be salvaged. Are proper tools and keys accessible to the people who may have to handle the situation? Have you considered door/frame size and locations, loading dock capabilities, and equipment to move materials? Are all employees who might be involved with salvage recovery familiar with rules for handling artifacts and works of art? Have you established evacuation routes for certain artifact? Where will the collection materials be processed during the salvage effort, and should there be separate processing areas for different collection materials? As you develop your plan, practice, and hold training drills, more questions will arise that will further refine your priorities and procedures.

A vital aspect of achieving successful recovery of prioritized items is the regular review of the list with fire and police personnel. Are the artifacts the priority, or is the building the priority? Are salvage priorities clear to the emergency personnel who will help respond to the disaster? More information about this is located under the section "Testing your Plan."

6. RESOURCE CONSIDERATIONS

An essential part of the planning process is to identify all available disaster response and recovery resources. In addition to preparing a master list of names, addresses, and phone numbers of national, regional, and local resources, invite local service providers to visit your institution. In the event of a disaster they will be able to respond specifically and swiftly if they have toured your museum ahead of time. Be sure to plan for back-up services, too.

A list of providers should include all local emergency services, utility companies, and repair services. The disaster plan should also include professional services, such as a legal advisor and sources of temporary labor. Included in the Forms and Supplementary Materials section of the Appendix are examples of lists that can be used to assemble information on local resources. In assembling a list of providers, consider the following:

Governmental

Know the county and city governmental offices and the services they provide. Below is a typical listing of city and county offices that might have resources available for preparing a plan and meeting disaster. Make contact, explain your needs, and use the services as necessary.

- Arts and Cultural Affairs Department
- Aviation Department
- Building Inspections Department
- City Attorney

PREP

PLANNING FOR RESPONSE & EMERGENCY PREPAREDNESS

- City Manager's Office
- City Utilities Office
- Fire Departments
- Information Services Department
- Environmental Health Services Department . Parks and Recreation Department
- Police Department
- Public Information Office
- Public Works Department
- Sheriff's Office
- Water System Office

Institutional and Industrial

Large institutions or industries located nearby may already have developed disaster preparedness and recovery procedures. Often they may be able to assist in preparation of a plan, or at the time of actual need. If not, they may be invaluable resources for information).

- Banks
- Churches
- Colleges and Universities
- Corporate Headquarters for Local Businesses . Hospitals
- Libraries
- School District Offices
- Science Centers
- Theme Parks

Others

There are probably dozens of other resources in the community or the region to assist in providing materials or services. It is important to make contact with some specific sources prior to the time of need in order to establish a working relationship. Such organizations may include:

- Art Supply Companies
- Conservators
- Fire Protection Services
- Hardware Stores
- Lumber Yards
- Paper Supply Companies
- Water Distributors
- Volunteer Organizations

Statewide Resources

Numerous organizations are located within the state of Texas that can provide assistance in disaster planning and recovery. Many of those listed in the Resources section of the Appendix are support organizations that may not provide services directly, but that can provide valuable information and direction. For example, the Texas Association of

PREP

PLANNING FOR RESPONSE & EMERGENCY PREPAREDNESS

Museums can steer you to sources of specific goods and services unavailable in your own town but located elsewhere in the state. Prior research and contact with resources can save valuable time during a disaster.

In summary, take advantage of the resources, equipment, and supplies available in the community. Coordinate disaster preparedness, response, and recovery efforts with local institutions, arranging to share large equipment and bulk supplies. In addition, survey the resources available in neighboring institutions. The university museum across town, for example, may have a portable generator it can loan to you in an emergency.

7. TESTING AND IMPLEMENTATION OF THE PLAN

The best offense is a good defense.

We cannot emphasize enough the importance of annual training and mock drills in the areas of disaster preparedness, response, and recovery. Knowing what to do before an emergency happens can make a significant difference in successful response and disaster mitigation.

Experience has shown repeatedly that when museum staff members are educated and practiced in following emergency plans and procedures, reaction times are reduced, coordination is improved, and overall response and recovery measures are considerably enhanced.

Education and training of your staff and volunteers should begin as you are developing your plan. This will enable you to fine tune your site-specific plan. Any written plan will be unable to foresee every emergency, therefore regular staff training may be your most effective preparedness and response resource.

Training in disaster mitigation techniques should be available to all staff members and is essential for those members serving on preparedness and recovery teams. Training should be scheduled during your slack time of the year. A valid drill requires time for planning, preparing, and conducting as well as for follow-up. It may also require commitment of resources. Some staff members should be designated as observers. These should be chosen at random to emphasize further the importance of cross-training. Their constructive review and suggestions, coupled with the recommendations from the staff involved with the drill(s), will help refine your plan.

Unexpected or no-notice “creative crisis drills” help evaluate the adequacy of the plan to meet specific contingencies and help assess the ability of the staff and the adequacy of resources to carry out the plan. As a result, you may discover that the plan needs to be refined, further training of your staff is required, and a greater commitment of equipment and supply resources is evident.

PREP

PLANNING FOR RESPONSE & EMERGENCY PREPAREDNESS

Some suggested review questions include:

- Did the plan, as written, produce a proper response?
- Were adequate manpower, supplies, and equipment available?
- Were response times appropriate?
- Did the staff know what to do in each case?

The emergency chain-of-command and respective roles and responsibilities should be updated regularly and clearly understood by all staff members. **Make this a part of your annual training drills.**

PREP

PLANNING FOR RESPONSE & EMERGENCY PREPAREDNESS

III DISASTER RECOVERY

"The initial response is shock."

Gary Harrington, *"The Southwest Archivist, Winter, 1993.*

The outline below provides a logical sequence to assist you in preparing and implementing a site-specific Recovery Plan. Knowledge of your own facility and collection needs and priorities is essential as you develop your recovery strategies, however. Disaster response is best viewed in terms of relative time frames, particularly in a catastrophe. Too many plans focus only on evacuation, or assume that the staff will be present and in charge of recovery operations at all stages of disaster response. The range of disasters is so great that recovery procedures must be highly flexible. The first responsibility of the museum is to ensure the health and safety of everyone in the building at the time of the disaster. Collections, exhibits, and buildings are necessarily secondary to this.

A. BEFORE A DISASTER OCCURS

All staff members should be trained in standard first aid and CPR (including infant CPR) with annual renewals. Some designated staff members should be qualified in advanced first aid or EMT training, in order to assist with proper evacuations as needed. Any disaster response plan should have the input, approval, and understanding of all staff members. Evacuation drills are important. Skills that are not practiced are ineffective, and reading is no substitute for doing. Phone trees and other systems of emergency notification should be posted both at the museum and at staff members' home, and should be regularly updated. Finally, good relations with enforcement and emergency personnel, set up in advance and maintained during normal times, will reduce some of the confusion and anxiety in a disaster.

B. DURING THE IMMEDIATE CRISIS

Respond according to existing disaster plans as much as possible. Circumstances will alter this. Much depends on whether the problem is indoors or outdoors, or whether it occurs during or outside business hours. All staff members should know whom to notify, when to evacuate, and how to keep panic from spreading. A building disaster may cause the loss of electricity, water, and access to normal evacuation routes. Alternate plans must be part of the response plan.

A community-wide disaster may limit the number of staff members who can reach the museum. Everyone needs to know who is in charge and where temporary administrative headquarters will be located.

PREP

PLANNING FOR RESPONSE & EMERGENCY PREPAREDNESS

C. IMMEDIATELY AFTER THE CRISIS (usually the first 48 hours)

Immediately following a crisis, the museum management may not be in charge of the situation. Law enforcement and emergency response personnel may legitimately control the scene until it is considered to be safe for staff to reenter the building. This is a decision best reached by emergency professionals (e.g. police, fire department, engineers). Points to be considered may include structural and electrical hazards, health hazards from fumes or leaks, and the chance of immediate reoccurrence (especially in cases of criminal activities, earthquakes or subsidence, or storms). The museum staff should be able to account for everyone in the building. After determining the scope of the disaster (museum, neighborhood, community, region), the emergency response personnel should assess the availability of staff to assist in recovery procedures. The conditions and procedures of the first 48 hours will significantly affect the remaining recovery efforts.

Remember that a museum staff member should make a video tape or photographic record of the damage immediately after the disaster and continue it all through the salvage and recovery stages. This should be a pre-assigned duty, with a backup assignment in case the individual tapped is not available.

D. WHEN THE BUILDING OR AFFECTED AREA CAN BE RE-ENTERED

Assessment of damage to objects and buildings begins at this point. Evaluate damage to collections, cases, work areas, and building fabrics. Circumstances will dictate how extensive this needs to be. Nothing affected by a disaster should be overlooked. This is the time when collections and storage materials are usually removed for treatment and off-site storage as needed. All damaged materials should be documented through video tape or photographs with notes made of the images for future reference.

Immediate damage control may involve the hiring of conservators, restorers, or other repair professionals. The museum management should know whom to call in the region. A largescale disaster may overload these people. Good relationships set up in advance help tremendously. Damage should be prioritized under a triage system: the materials that cannot be helped by any attention, those that are stable without immediate attention, and those that will only survive with immediate attention. The last category should be cared for first; the first should be documented as a loss. You will need a conservator to work with and train the museum staff to deal with the second category on their own as appropriate.

Based on the situation, the people available, and the risks involved, the museum personnel, conservators, and other outside experts should work quickly at this point to develop a clear plan for responding to the specific situation before any cleanup or removal begins.

As the first cleanup is going on, systems of pest control, HV AC quality, and

PREP

PLANNING FOR RESPONSE & EMERGENCY PREPAREDNESS

environmental conditions should be monitored, particularly if these need up-grades. Furniture and equipment should also be surveyed to establish the extent of damage and possible need for replacement.

E. AFTER MATERIALS ARE BACK IN PLACE

The response does not end here. The staff should prepare a list of all the materials affected by the disaster and an overview of deteriorative changes to monitor at regular intervals (monthly, annually, at the five-year mark, etc.). Changes that cannot be detected at first may turn out to be especially serious in the long run. These include factors such as slow-growing molds, drying and splitting book spines and wooden joints, flaking pigments and stone and ceramic surfaces, rusting and corroding of metals, blanching of paintings, and releasing of toxic substances released by wetting. The effects of overly aggressive drying or other treatments may also become apparent. All these should be documented and treated.

At this time, the disaster policies and procedures should be reviewed and updated. Changes to the building may necessitate changes in evacuation plans; collections may be moved to safer areas; visitor access may be modified. A review of what works and what does not should be made. The disaster response plan should NEVER be set in stone, but it should be upgraded as often as necessary to reflect ongoing changes in circumstances.

PREP

PLANNING FOR RESPONSE & EMERGENCY PREPAREDNESS

IV. CONCLUSION

As stated in the introduction, the text of this manual is produced as a guide for developing a site-specific disaster plan and resource list. There is not a template in this manual because it is essential for an institution to experience the process of disaster planning. Disaster planning means fully investigating strengths and weaknesses, analyzing the potential and probability of disastrous occurrences, and, perhaps most importantly, providing a means for a museum's staff, trustees, and volunteers to work efficiently in the face of a disaster.

Prepare by examining the types of disasters to which you are most susceptible. However, never forget you are vulnerable to nearly all disaster types and address even the obscure just in case!

It is also necessary to analyze staff and provide appropriate training to those best suited to specific tasks. This will provide optimum disaster mitigation. In addition, a full understanding of the facility is vital and a complete plan will address these issues. Equally important is community utilization: know who and what is available in a time of need, as well as how to access these resources. Efficient utilization of resources is additionally essential and a plan needs to keep such information current and accessible.

Keeping one's plan and resource material current is also basic. Remember that staff, volunteers, trustees, and outside resources change. A useful disaster plan cannot be completed and relegated to the bookcase. It must be regularly reviewed, updated, and practiced. Only in this way can maximum response be assured.

The editors hope users of this manual will apply these guidelines to their institutional needs. The Texas Association of Museums is committed to assisting museums in their efforts to meet acceptable museum standards. A comprehensive disaster plan and resource manual is a major contribution toward this goal. Participation in workshops such as those provided at annual museum meetings, regional group meetings, and affinity group workshops will continue this process.

PREP

PLANNING FOR RESPONSE & EMERGENCY PREPAREDNESS

Selected Bibliography

The intent of this bibliography is to provide further reading in the field of emergency preparedness and disaster recovery. The bibliography is arranged in the same basic order as the PREP manual. General readings come first, followed by citations to materials dealing specifically with preparation and risk management. Special emphasis has been placed on materials dealing with disaster recovery, which have been arranged by format.

Given the amount of new material being written in the field of emergency preparedness and disaster recovery, users of this bibliography are encouraged to keep up with the current literature in professional museum/library/archives journals. The primary, and most current, bibliography in the field is maintained at The University of Tulsa by Toby Murray, Preservation Officer. Requests for the most current version of Bibliography on Disasters, Disaster Preparedness and Disaster Recovery should be sent to her at: University of Tulsa, McFarlin Library, 600 South College Avenue, Tulsa, OK 74104 (918) 631-3800. Minimal postage and photocopying charges will apply.

An effort has been made to include items that readers of this manual can find in most libraries, archives, or museums. In addition, the AMIGOS Bibliographic Council's Preservation Service in Dallas maintains an extensive library on emergency preparedness and disaster recovery. Photocopies can be requested through Tom F. R. Clareson, Preservation Service Manager, AMIGOS Bibliographic Council, Inc., 12200 Park Central Drive, Suite 500, Dallas, TX 75251 (800) 843-8482.

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PREP

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back to top

PREP

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[back to top](#)

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[back to top](#)

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