INTERNATIONAL COUNCIL OF MUSEUMS
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Guidelines for Disaster Preparedness in Museums

Off-print from the handbook "Museum Security and Protection"
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It is fortunate that disasters do not occur every day in museums and galleries. The very rarity of them can lead to a situation where we hope for the best and are reluctant to prepare for the worst!
Forethought and planning can prevent an emergency becoming a disaster and minimise the injury and damage to people and collections.
It is hoped that this publication will help all who are responsible for museums and galleries to prepare for the worst. Thoughtful planning, energetic preparation and training can all lead to calm, decisive action in an emergency.
Bryan Dovey
Chairman, ICMS

Emergency planning and operation

"Disaster: An emergency event that occurs with little or no warning, causing more destruction or disruption of operations than the museum can correct by application of its own ordinary resources. Disaster Preparedness: Possessing in advance the capability of taking the immediate action or actions necessary to cope with a disaster in order to prevent its occurrence or to minimize its impact."
(John Hunter, Preparing a Museum Disaster Plan (National Park Service, Omaha, NB1980), p. 1)

Institution managers who prepare for difficulties in advance reduce their harmful effects. Institution and protection managers, as emergency program managers, are risk managers. They safeguard people, assets, and programs. This special protection program is necessary at most cultural institutions.

Cultural institutions maintain a plan for emergencies that expects difficulties before they occur. The institution manager gives the emergency program manager a senior staff level.

An emergency plan first cares for visitors and staff and cares for and safeguards archeological sites, natural lands, buildings and structures, irreplaceable collections, and historical records.

The institution manager, protection manager, and emergency program manager work together to operate a cultural institution emergency plan, emergency supplies and materials and an emergency communication system. They test the plan with exercises and drills and prepare to survive long-term emergencies.

In large and small emergencies, they establish a control center separate from any continuing routine operations. They agree on operating procedures and policies. While not every emergency or combination of circumstances is predictable, the plan contains many reaction response choices that permit flexibility to adapt to circumstances.

In most cultural institutions, the protection manager is the emergency program manager. The emergency program manager plans the long-term protection of collections by preparing to act in emergencies. Characteristics of an unprepared cultural institution emergency program appear in Action Guide IB. A guideline for a systematic program appears in Action Guide ID. The ICMS plans to publish a new text on fire protection and emergency planning in the future.

The emergency program manager conducts an emergency threat assessment or risk analysis to predict what threats might occur. The manager develops an emergency plan that allows the institution the major means to survive each threat. The manager prepares an emergency plan of command and control to manage the institution during the emergency, using emergency communications and information prepared in advance. The manager uses practice exercises or drills to ensure that the plan and team work.

The emergency program manager coordinates many persons inside and outside the institution for services during emergencies and prepares for long-term emergencies that stop operations completely. The manager prepares specialists to assist in the recovery from emergencies so that the institution starts up again to recover and continue its original purposes.

Conservation, fire, and protection officials must communicate effectively in order to work under emergency conditions effectively. They work as a well integrated team with rapid, accurate, and reliable communications. The emergency program manager must communicate with the emergency team, resource persons, the institution manager and other emergency officials and organizations. The emergency program manager must receive civilian radio and television broadcasts of weather and local news reports.

The three themes of this handbook apply most directly to emergency planning:

- Anyone who is at the cultural institution when an emergency occurs can perform as part of the emergency team. Protection is everybody's business.
- Every object in a collection requires a consistent level of at least minimally adequate care, especially during emergencies.
- The protection manager prepares the institution to survive during a major emergency or disaster by developing a long-term emergency protection plan. This provides emergency protection and conservation services when no outside assistance is available.

Many persons use the terms 'disaster' and 'emergency' differently. Many persons consider a disaster a long-term or widely spread unexpected interruption that interferes with work activity, such as a major earthquake or a major flood with loss. Many persons consider an emergency a common or expected interruption, such as a minor flood that regularly reoccurs or a short-term electrical failure that regularly reoccurs. A disaster is an emergency situation that is out of control. In a major disaster, the 'emergency' may grow to a 'disaster' and then recover to an 'emergency' until the event is complete. For simplicity in this chapter we use the term emergency for emergency and disaster situations.

Primary emergency protection

When an emergency occurs:

- Save people.
- Alert others, including local emergency centers and rescue units.
- Save valuables.
- Limit or stop the emergency when possible.
- Check that family and friends are out of danger.
- Plan and continue emergency services.

Most cultural institutions have commonly known but unwritten emergency reaction plans, often called contingency plans, for the safeguarding of persons and property from dangerous events that persons can expect to occur. The emergency reaction plan for a fire is the call for an evacuation of the building and the calling for the fire service. The emergency reaction plan for severe weather is often the prevention of evacuation of the building until the severe weather has passed.

The emergency staff first account for every person in the institution. The emergency program manager checks for damage to the building, collections, and other operations. After the initial emergency, the emergency program manager maintains and protects the site until the institution recovers and begins normal operations.

When a serious threat occurs, the appointed and trained emergency program manager starts the emergency plan without delay. The protection manager prepares senior protection staff to act when the designated emergency program manager is not on site. The

senior protection manager on site or the senior institution manager on site starts the plan when the emergency program manager is not on site.

The emergency program manager prepares the emergency plan and forms an emergency team to respond to each emergency. Managers integrate existing safety, fire protection, and building evacuation programs into the emergency plan. The institution manager supervises the preparation and maintenance of emergency plans. The protection manager trains and drills the staff in emergency operations.

The emergency program manager manages the institution during the emergency as the crisis develops, becomes controlled, and subsides. Action Guide 12A provides an emergency threat or risk survey guide. Managers develop emergency plans that assign specific responsibilities.

Before the emergency:

- obtain an evaluation of how the building might be vulnerable to damaging weather phenomena and make recommendations to reduce potential damage;
- inspect the building to determine the vulnerability of buildings and assets in case of utility failure;
- obtain when possible information on the availability of a collections refrigerated vehicle for freezing collections damaged by water and for transfer of damaged objects to freeze-dry facilities for repair;
- obtain an evaluation of building and installation vulnerability to emergencies stemming from social unrest or war;
- ensure, in conjunction with safety inspections, that approved unit emergency plans are tested and kept current;
- provide training in the use of fire extinguishers and general fire protection to the staff as required;
- provide a fail safe warning system for visitors and staff;
- maintain lists of easily available conservation specialists outside the institution and their specialties;
- procure required supplies and equipment to use during emergencies;
- ensure that first aid supplies are on hand;
- test the plan once per year under a scenario simulating expected conditions.

Regularly:

- determine the structural integrity of buildings during and after emergencies;
- maintain liaison with police, fire, and government agencies to determine services available to the institution;
- provide protection for assets during relocation;
- assist the conservator in determining the vulnerability of assets to various kinds of damage;
- ask for the assistance of curators, scientists, and protection officials from other places to assist in identifying those items requiring special protection from emergencies likely to occur.

After the emergency;

- determine what areas of damaged buildings are safe to use;
- develop projects to repair damaged building parts;
- conduct an inspection of utility systems after an emergency has occurred to check for damaged live electrical wiring, broken gas lines and steam piping; and
- provide additional protection staff and communications equipment as required during emergencies.

The emergency team assembles, divides the duties and responsibilities among those who are present, establishes clear instructions for the response and collects available tools, equipment, and materials for the work. Emergency officers turn off dangerous utilities such as electricity, gas, and possibly water until officials check that they are safe to use. The emergency team relies on its own emergency means of communication. These can be whistles, lights, portable 'walkie talkie' radios or normal means of communication. The emergency team disperses to their assigned areas, completes their work, and signals the emergency program manager of their status.

Emergency officials use:

- voice communications
- hand signals
- written reports a signs and graphics with rules and regulations
- whistle signals a flashlight or torch signals
- bell signals
- electric light signals
- telephone signals
- sirens and horns such as for fire warnings
- transistor radios or televisions
- portable battery-powered telephones
- radio communications
- coded public address announcements
- portable 'walkie talkie' radio communications · intercoms

Managers require the staff to become familiar with the emergency plan before an emergency occurs so that they know how to react. Managers often post emergency plan instructions in common places such as on bulletin boards and on the back page of the institution telephone directory. When the staff know the plan in advance, they follow emergency instructions and serve as emergency team members when an emergency team member is not available.

Often the emergency team assists responding police, fire, medical, rescue, or emergency equipment companies. After evacuating persons from the area, the emergency team directs the responding team to where they should enter the property and building. They guide them to the emergency area, provide them with information about the property and coordinate their work in salvaging property. Emergency teams require training and the institution staff requires an orientation to emergency operations before an emergency occurs. Emergency

teams must prepare for emergencies at very unexpected and inconvenient times and should expect more than one emergency at a time. Emergency teams usually do not evacuate collections and other equipment without a good plan.

The institution might not receive police, fire, or medical assistance immediately during a widespread emergency when more serious problems exist in other places. The protection manager might operate alone for the first part of the emergency, until external organizations are available to assist.
The protection manager prepares to act alone for emergency rescue, medical attention, and firefighting.
The institution purchases and maintains emergency equipment to add to existing supplies on site.
The emergency program manager records the progress of the emergency, uses a camera to record conditions, and completes a report of the event later.

Emergency threat assessment or risk analysis

The emergency program manager determines what kinds of problems to expect to occur, based on their frequency of occurrence and gravity of each occurrence. This is a security survey for emergencies.
The emergency program manager often conducts a formal emergency threat evaluation similar to the kind discussed in Chapter 1. The emergency threat analysis security survey appears as Action Guide 12A but exists in greater detail as Section B of the publication Museum Security Survey published by the International Council of Museums. Some managers use the detailed chapters of the survey text for emergency plan preparation.

The emergency program manager talks with experienced staff members who recall past emergencies and the reactions that occurred in the past. Protection managers add the probabilities of loss from historic weather data and from historic records. Cultural institution managers or parent organization managers offer assistance from their risk management and insurance offices.

The emergency program manager and the protection manager determine the seriousness of threats. This determines how much they prepare the institution to stand alone. They determine what equipment, supplies, and staff the manager prepares for immediate use during emergencies.

They determine how the institution fights fires without fire service assistance, patrol the perimeter without police assistance, and provide emergency medical assistance without medical support from ambulance responses and sometimes from immediate hospital availability. They prepare rescue equipment, firefighting equipment, communications equipment, first aid equipment, guard or attendant patrolling equipment with basic hand tools and repair materials and supplies for emergency board-up or weatherproofing.

The protection manager and emergency program manager request other professionals to review the survey for completeness, effectiveness, and coordination with emergency plans of other organizations.

The emergency plan

The emergency program manager prepares the emergency plan in advance. The emergency program manager coordinates the plan with the protection manager and other staff. When the institution manager approves the emergency plan, it gives the emergency program manager the authority to start the plan and control the institution during an emergency. When there is an approved emergency plan, there is a formal authorization for the emergency program manager to manage the institution and the institution staff prepare to take a unified, supportive course of action.

The emergency plan states the course of action to follow during emergencies, when the emergency plan and team starts to operate and how long the plan continues to manage the institution. Cultural institution managers often appoint a person or a group of persons to develop this plan in advance. Many emergency program managers use the guide for emergency plans in Action Guide 12B.
The emergency plan contains:

- purpose and authority for the emergency plan;
- the formation of an emergency team and its chain of command;
- instructions, activities and immediate resources for the emergency team;
- inventories of assets, expected actions, and controls; and
- inventories of resources.

Many persons form an emergency plan as chapters with appendices to detail reaction plans for specific kinds of emergencies. With or as part of the emergency plan, the emergency program manager maintains an emergency notification list of emergency team persons and of persons to notify when an emergency occurs. Many emergency program managers use a notification list similar to the kind provided in Action Guide 12C. These notification lists give specific names and telephone numbers, names and numbers of alternative persons, and authorities to obtain supplies and services during an emergency.
The emergency plan often details the expected team response to the more common emergencies. The emergency plan expects:

- the occurrence of the more common expected emergencies
- related emergencies that the plan describes but does not fully detail; and
- a course for action for when the execution of the plan diverges from the expected course.

Many emergencies begin without time for preparation. The emergency plan requires a rapid organization and instruction of an emergency team. Emergency team members must read the emergency plan in advance and know what to do without confusion or another reading of the plan. The emergency team usually includes almost the entire protection or vigilance staff. These staff learn to work well in different emergencies.

Emergency program staff require an emergency plan that is simple and easy to understand and follow. The plan contains the more important authorities, instructions, and contact information but is as short as possible. The emergency team requires many copies of the

plan prepared in advance, protected in different locations, and ready for distribution and use.

Emergency plan command and control

The emergency program manager follows the emergency plan to determine when the plan starts and stops. The emergency program manager or an alternate program manager is regularly available to respond to the institution. When the emergency program manager or alternative are not available or in contact with the institution during the beginning of an emergency condition, the senior emergency team member who is at the institution must act to start an emergency plan according to instructions.

The emergency team manager in charge:

- declares that there is a real emergency and officially starts the emergency plan;
- establishes a central emergency command center and avoids panic;
- notifies institution authorities and other organizations or emergency command centers of the emergency;
- establishes an emergency communications system;
- calls members of the emergency team to assemble;
- starts a regular evaluation and re-evaluation of the threat and impact of , the emergency on the institution;
- designates staff to perform initial checks, conduct special tasks and report on their completion or progress;
- accounts for, organizes, and cares for visitors and staff at the institution;
- inspects buildings, properties, and valuables regularly;
- schedules emergency team persons to tasks and work hours, with relief persons when possible;
- establishes where the emergency team rests, eats, and sleeps when relieved but subject to recall;
- designates a vehicle with a gasoline supply for the emergency team to use, especially when there are large grounds or multiple buildings
- instructs staff to open and use supplies as required;
- contacts emergency supply persons or companies as required;
- rescues valuables when required;
- conducts regular physical security and fire security patrols until the emergency is over;
- coordinates with other emergency team managers and authorities;
- prepares for professional recovery staff to return and manage the recovery phase of the emergency; and
- issues general instructions for the return of the regular staff and a public announcement estimating the reopening of the institution.

The emergency program manager establishes an emergency command center or post. Often the emergency program manager establishes a portable command center as a vehicle or cart specially equipped with communications and other emergency equipment. When there is sufficient electrical power, the emergency program manager establishes an emergency

command center in or near the portable radio 'walkie talkie' base station of the protection staff.

The emergency program manager chooses the center that is convenient to communicate with persons entering the property and with persons using the emergency communications systems. When the institution manager arrives, the emergency program manager establishes an institution management post or center next to the emergency command center for the institution manager to work with public relations and recovery staff. The institution manager prepares written statements for distribution to the press during an emergency.

Emergency program managers prepare simple written instructions in advance for additional untrained members. Emergency teams might revise the emergency reaction list prepared for the protection force in Action Guide 3C. Emergency teams have instructions and training for medical emergencies, firefighting and rescue, and physical security.

Emergency teams know the locations for building controls for utilities; for emergency communications and supplies, including building and living supplies; and for collections requiring special attention and supplies to maintain them. Emergency teams use the instructions in Action Guide 4D for the emergency movement of collection objects and use the elements in Action Guide 4E to determine what collections require more care.

During an emergency, the emergency team manager acts for the institution and directs the institution staff. The emergency team manager operates from the emergency command center. The institution manager operates from the separate institution command center. The institution manager respects the special responsibility and training of the emergency team to conduct the emergency. The institution manager monitors the emergency command center operation and advises the emergency team manager according to agreed means. The institution manager prepares the institution to recover from the emergency and return to normal conditions.

Emergency communications and information

The emergency program manager in charge requires immediate two-way communication to conduct regular checks directly with each member of the emergency team. They must receive any civilian radio and television broadcasts available of weather and local news reports.

The emergency program manager in the emergency command center stays in contact with important points. These are a property entrance point, important exterior doors and the control room or another emergency control center, contactable by telephone, signal bell, or intercom wire. The emergency team might include protection staff, department managers or representatives, grounds and gate keepers, building or facility managers, drivers, supervisors, alarm control operators maintenance and repair men, janitors, visiting officials of other emergency organizations.

Department managers relay instructions by emergency officials in different locations Visitors expect a clear message system such as a public address system operated by emergency

power or a portable electrical loud speaker. Some telephone systems operate separately from electrical systems. When telephones fail to operate, institution officials often use the public address system with coded messages During longer periods without electrical power and without telephone systems, emergency officials communicate with staff using an internal intercom that requires very little battery power or portable loudspeakers and whistles.

The emergency program manager establishes a telephone calling notification tree system where each assigned person who receives an emergency message tells two or three others, who tell others, who might tell others. The notification tree system requires strict discipline and participation for every person to receive the information.

The emergency team manager requires a low power communications system to operate very quickly and reliably. Emergency team members prefer to use portable radios with battery chargers on emergency power during a short-term electrical power loss In some cases civilian band radio broadcast equipment might be useful and available. Many new electronic systems provide more alternatives for electric. power and for communications. Portable electric generators are available almost everywhere. Vehicle, cellular, and portable telephones are useful when electrical and telephone wires are broken but the main centers are still operating.

The emergency program manager often receives the most accurate and current information about emergency conditions and weather, the operation or non- operation of other organizations and systems, accounts of damage or loss and predictions of future conditions by public radio and television broadcasts The emergency program manager maintains some public radios and televisions available for emergency team use. Public radios and televisions are more useful when their broadcasts are recorded for review by planners and other emergency team staff.

Practice exercises or drills

Every emergency plan requires testing and regular improvement. Emergency program managers do not rely on a plan until managers conduct a practice exercise or drill to evaluate how well the plan protects the people and the institution.

Managers prepare institution visitors and staff for emergencies without alarming them. Institution managers and emergency program managers plan fire evacuation exercises or drills to condition staff for future emergency exercises or drills of other kinds When managers hold practice exercises or drills, emergency staff become skilled in protecting the institution staff who also become more cooperative. Institution managers and emergency program managers motivate the institution staff to be cooperative by thanking them for reacting well in exercises and drills.

Drills are more realistic when unexpected difficulties occur such as the lack of fresh water, the closing of roadways and the absence of communications to anywhere outside the institution. These situations might be added to the drill in the middle of the drill, not at the beginning of the drill.

With improved preparation for emergencies, institution and protection managers develop defensive programs to reduce the loss from emergencies and disasters. These programs might include a more realistic or tested plan, a better or taster communications warning system or an improved defense of the institution from a serious threat such as fire, flood, or structural collapse.

Long-term emergencies

Emergency program managers prepare to protect their facilities and collections from loss during major long-term emergencies in different ways. These emergencies include a long-term natural disaster, loss of finances, and social disruption. During these emergencies combinations of problems destroy major amounts of cultural collections. Emergency program managers have the least physical protection and conservation resources available to assist them when they require them. Institution managers work closely with emergency program managers to prepare the institution to survive during long-term emergencies.

The long-term public closing of a museum or cultural institution does not excuse an institution manager from the responsibility for the long-term care of the collection. Managers re-evaluate institution requirements in order to provide at least a minimum level of adequate conservation and physical protection care. Lack of funding, staff, or materials is not an excuse for lack of action.

Managers ask important citizens, donors, and government officials to find very important resources for conservation and physical protection. They often find unusual sources of important materials that no one measures in monetary terms. The staff and volunteers might serve as physical protectors of the property on a part-time basis. In place of salary they might accept a small salary, benefits, or a salary for payment later, guaranteed by another organization.

During a long-term social disruption, natural disaster, or loss of funding, the protection manager usually protects the institution without external assistance.

Government officials usually send their forces and services to places of more importance to the nation and to the preservation of life. The protection manager uses a volunteer force to protect the institution independently. Protection managers and protection staff plan how to protect their families and continue serving the institution. The protection manager might develop a staff family support program to relieve the staff of some of their worries so that the emergency staff can better perform at the institution. The protection manager establishes a fire patrol, grounds security patrol, buildings patrol, and conservation control. Managers prepare to conduct operations until the end of the long-term emergency, which might be days, months, or years.

When the threat is very close, managers close the institution to the public. When there is enough warning, the institution manager tells department managers to close down each operation and prepare for long-term survival. Managers close research projects and exhibit preparation areas. Collection managers prepare to move collection objects to storage or places of greater safety. Conservators collect basic preservation materials and seal objects in protective, durable environments.

Protection managers collect keys from staff, lock each part of the building and inventory supplies for use during emergencies. Action Guide 12D provides a suggested list of emergency supplies for cultural institutions. Protection managers must make a major effort to avoid the vandalism of collections by persons who look for anything of value to maintain themselves.

Protection managers begin emergency fire patrols when there is an increased threat of fire or a threat of having no response from the professional fire service. There is normally little opportunity later to collect building and preservation materials from other places. Protection managers quickly cover doors and lower floor windows with barriers to discourage potential intruders. Managers prepare staff to repair broken barriers immediately and fight fires independently.

Protection managers improve security for objects in place, move them or re-mark them for safekeeping. The re-marking and removal of major objects to safer places inside or outside the institution might be advisable. Managers protect cultural property that can be clearly identified with one combatant or the other. Protection managers use the book *Protection of Cultural Property in the Event of Armed Conflict* from UNESCO. Protection managers consider its techniques and information very important to preserving the cultural heritage.

Sometimes social disruption involves cultural institution property. The Geneva Convention for the Protection of Cultural Property of 1954 states that cultural institutions are not participants of war and destruction. Cultural property protection officers are non-combatants. Cultural institutions are not locations for combatants. Cultural institution professionals must respect these conventions and encourage others to do the same.

The convention establishes a five-sided symbol of blue and white for the marking of institutions and for the identity cards of cultural property protection officers. The general figure is a vertical rectangle with a triangle on the bottom. The five- sided figure shows two diagonals from the corners. The resulting four sections are blue and white, with top triangular section and bottom diamond-shaped section blue with the two side sections white. Managers in some nations such as France already use the symbol to mark cultural property.

Protection managers evaluate the attitudes of combatants and civilian populations towards cultural property. When combatants on each side respect cultural property and when the civilian populations work to preserve cultural property, protection managers mark cultural institutions with the Geneva Convention symbol. When one of the combatant sides does not respect cultural property or when one of the civilian populations considers cultural property as money or items of hatred, protection managers hide cultural property.

Many cultural institutions occupy strategic geographic positions in the land. Active combatants might choose to use cultural institutions as a strategic position to occupy, a shelter, a source of supplies, or a place to hide. Protection managers discourage these uses of cultural properties and cultural buildings. Protection managers do not maintain institutions to a degree of comfort that invites combatants to take advantage of that comfort. Protection managers blockade roadways, permanently close gates and doors and hide the careful manner they use to safeguard and maintain collections. Protection managers do not share information about collections with others and do not permit anyone to trade collection items for personal gain.

Recovery from emergencies

Emergency program managers continue their work maintaining property control until routine protection staff and systems replace them. The emergency program manager coordinates with the institution manager during the recovery from an emergency. During this time the emergency program manager controls public information and arriving telephone calls through an official office.

The exposure of cultural collections to climate and weather and the careful rescue of damaged objects are important concerns. New materials, equipment, and techniques, such as freezing and freeze-drying, often save collections. The emergency program manager works closely with the institution manager, collection manager, conservators, curators, movers, and facility manager.

The emergency program manager determines when it is safe to use parts of the structure again. The institution manager often moves part or the whole of the operation to another site until repairs at the original site are complete. Emergency program managers record the operations and prepare reports for analysis and improvement of the emergency plan.

Summary

Institution managers and protection managers are more effective when they work with an appointed emergency program manager. As one individual, the emergency program manager coordinates many different parts of emergency plans, exercises, and reactions. The emergency program manager or the person designated by that manager on site during the emergency is fully responsible for the protection of the institution.

Every emergency program manager uses Action Guides 1B and ID to assist in developing an institution emergency program. Every emergency program manager takes the steps mentioned in the primary section of this chapter.

Every protection manager protects the institution by writing an emergency plan that the institution manager approves and supports. The plan includes the public, the staff, and the collections. Emergency plans require the cooperation and planning of the protection and management staffs.

The emergency staff must have every required authority to act and account to the institution manager. The emergency program manager manages the staff, controls the site, moves and

uses materials and equipment, communicates with other (emergency program managers, and contracts with other persons when required. The institution manager issues press releases and prepares to conduct recovery operations when the emergency passes.

When protection managers discover that the staff are not ready or are confused in reacting to an emergency, they prepare the staff with drills or exercises. When protection managers discover that the staff know how to act adequately in an emergency, they hold emergency drills regularly. When protection managers discover that the staff commonly react to an emergency in a dangerous or unreliable manner, they reconsider the emergency plan and emergency instructions.

Every museum and cultural institution manager requires a strong, well supported emergency plan to provide at least a consistent, minimum level of adequate care to a cultural collection during times of extreme or long-term emergencies. No plan is strong without testing and drills. Managers coordinate institution emergency plans with the emergency plans of local governments and institutions.

Recommendations

'Experience has unfortunately shown that disregard of the rules of logic, not to say of simple common sense, is most often - even more than lack of physical or financial resources - the cause of the most serious miscalculations in the field of security.'
(International Council of Museums, The Protection of Museums Against Theft,' Vol. 17, p. 187, Museum, Unesco, Paris, 1964.)

Museums develop security and protection programs according to their unique requirements. This handbook explains various methods for adaption depending on the institution's collection, its facilities, its financial strength, and its political and cultural environment. There is no one program that is right for every institution. Every institution protection program includes basic protections against fire, theft, vandalism, and any injury to its staff and visitors. Some of the key points in planning an effective museum protection program follow.

1. Protection or security has no single comprehensive solution. Every protection and security problem has a different character. Managers use experts for advice.
2. Local security markets vary. Protection managers learn from each other by associating on regional, national, and international levels.
3. Cultural institution board members, directors, administrators, planners and architects learn that protection is less expensive and more effective when integrated at the planning and design steps.
4. Every cultural institution requires good protection. Each begins by convincing the administration and financial officers of the requirement to adequately fund it.
5. Protection planning is continuous and requires realistic time frames. Long-range improvement programs, over three to five years, are very effective.
6. Managers do not stop progress because of disagreements between requirements for security, aesthetics, and fire protection. Managers find solutions through cooperation and resourcefulness.
7. Good security is a basic part of daily institution operations, balances, and compromises that function through regular institution channels.

8. Managers delegate protection authority to one well trained person. Managers prefer a full-time protection manager.
9. Theft and fire protection requirements do not threaten each other.
10. Fire is a greater threat than theft because fire is life-threatening and a source of greater loss. Managers clean up laboratories, work areas, offices, living spaces, kitchens and areas of installation, construction, and renovation.
11. Good security is permanent and continuous. Managers apply protection to storage, transport, exhibit, and loans.
12. Protection requirements for loans to other institutions are as good as or better than at the parent institution.
13. Physical guarding is a primary security means. Mechanical and electronic protection are supplementary and cannot be replaced.
14. Physical guarding requires more consideration. Managers improve guard or attendant qualifications, status, and performance.
15. Fewer guards or attendants are less management expense. Guard or attendant quality varies according to guard or attendant training and performance.
16. Rented security guard or attendant services do not provide institution loyalty. Managers have better results by hiring and training institution guards or attendants.
17. Guard or attendant clothing and appearance suits the institution image and protection requirements.
18. Security alarms do not protect completely. Managers schedule physical inspections to patrol every area regularly and irregularly.
19. People detect more problems than alarms. Guards or attendants who investigate problems twenty-four hours a day provide better protection.
20. A stay-behind who hides in the institution at public closing time puts the institution in major jeopardy. The clearing sweep at closing each day is the most important search of the day.
21. Guards or attendants check property entering and leaving. Managers train guards or attendants and support and assist them to respond to challenges to their authority and procedure.
22. Inventorying, cataloging, registering, record-keeping, and record maintenance are important security concerns. Good record-keeping promotes control and discovery of loss. It assists in the rapid publicizing of missing objects and recovery of them.
23. Curatorial staff conduct daily exhibit inspection checks. Guards or attendants patrol public areas and entrances, and inspect visitor areas at the beginning and end of each day.
24. Vandalism directly affects institution image. Managers keep areas clean, in good repair and graffiti cleaned up as soon as possible.
25. Fire walls with automatic closures protect and separate major institution areas. Staff do not leave the doors inoperable or forced to an open position.
26. When there is a fire, everyone calls the fire department first and sounds the alarm. Managers train the staff to prevent and fight fires.
27. Managers connect fire detection systems and pull boxes to a central station or a fire service. lonization detectors are the fastest detecting mechanisms.
28. Fire detection and response must be fast to be effective, such as less than 5 minutes for fire service response. Officials recommend water sprinkler systems especially in

major buildings, and in workshops, offices, service, utility, and libraries as safe and reliable fire protection.

29. In some cases carbon dioxide or dry chemical fire protection systems are better but they do not provide the same effective firefighting concentration that water provides.
30. Officials recommend the correct removal of all halon gas systems.
31. Managers train staff and guards or attendants to avoid subterfuges of fire or bomb threats to hide a theft. Staff consider the total security situation before reacting to an emergency.
32. Technical alarm system protection varies. Consider the requirements of the object requiring protection, physical layout, daily working procedures, the nature of the security force, and the kind and speed of response and counter reaction.
33. Managers review crime statistics and prevention techniques with the local police. Managers use this to determine the extent and sophistication of the protection effort.
34. Managers do not buy security equipment because it is for sale locally or recommended by the sales person. Managers determine the special institution requirements and develop special system and performance requirements.
35. Managers use a combination of mechanical and electronic protection methods. Managers begin with traditional mechanical forms of security for physical barriers such as steel doors, locks, and bars.
36. Managers use combinations of systems instead of just one system. Managers use different protection mechanisms for perimeter, space, and fixed-point alarm requirements.
37. Managers evaluate institution activities and environments continuously before selecting protection and detection systems.
38. Alarm signals must be clear and understandable to have a quick response. Alarm systems are as good as the speed and ability of the guard or attendant responding.
39. Managers re-evaluate excessive false or trouble alarm mechanisms. Managers re-evaluate, replace, or recalibrate them.
40. Alarm systems require constant checking for them to be reliable. Managers test batteries, adhesive attachments, tampering ability, wires, connections, and the kind of protection provided around the clock.
41. Some alarm mechanisms are not expensive or visible. Managers develop innovative, tailored, and homemade mechanisms that are aesthetically acceptable and inexpensive.
42. Staff call the police immediately to report a theft. Managers gather a description and publish notices both with the police and collector or art theft groups.
43. Institutions and insurance managers resist blackmail, ransom, and extortion.
44. Managers do not publicize monetary values of objects, or unethical staff procedures, and do not tolerate excessive insurance evaluations.
45. Security includes a sharp awareness of the continuing protection requirement. This includes a study of the criminal motives, conservation requirements and techniques, fire prevention and suppression, and basic common understanding security techniques and applications.

(Developed from 'Conclusions and Recommendations', Chapter 12, Robert G. Tillotson, *Museum Security*, ICOM, Paris, 1977.)

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ACTION GUIDE12A
Emergency risk analysis assessment for museums and other cultural institutions

1.0 ***Climate risk assessment***
1.1.0 From temperature
1.1.1 From sudden temperature changes or large temperature extremes
1.1.2 From special problems to collections from freezing
1.1.3 From collection damage from loss of building protection
1.1.4 From collection damage from loss of environmental controls
1.2.0 From relative humidity
1.2.1 From sudden changes or large extremes of humidity
1.2.2 From special problems to collections from high humidity
1.2.3 From collection damage from loss of environmental controls
1.2.4 From collection damage from loss of building protection
1.2.5 From collection damage from mold and mildew
1.3.0 From severe weather
1.3.1 From building damage and loss from severe weather
1.3.2 From frequent or major interruption of utility services
1.3.3 From safety of persons from severe weather on a normal day
1.3.4 From interruption of building and internal operations
1.3.5 From wind damage from flying debris
1.3.6 From other results of very bad weather

2.0 ***Topographical risk assessment***
2.1.0 From rivers and water levels
2.1.1 From minor flooding
2.1.2 From major flooding
2.1.3 From flooding below ground level or below the water table
2.1.4 From surface water after heavy rains
2.1.5 From massive water from up stream or up grade
2.1.6 From not receiving warnings of heavy rain or flooding
2.1.7 From major rain, hail, ice, or snow
2.1.8 From loss of water supply for firefighting
2.1.9 From tidal or other unusual water phenomena
2.2.0 From the slope of land
2.2.1 From damage or loss from massive terrain from above and under what conditions
2.2.2 From damage or loss from loose or dangerous terrain from below and under what conditions
2.2.3 From shifting earth
2.2.4 From earthquakes
2.2.5 From volcanic activity

3.0 ***Vegetation risk assessment***
3.1 From a terrain fire
3.2 From attack or infestation by wildlife, diseases, insects, rodents, bats, and birds
3.3 From windstorm damage from trees

4.0 ***Environmental risk assessment***
4.1 From damages from a natural disaster at an adjacent structure
4.2 From damages from a fire, explosion, or chemical spill at an adjacent structure
4.3 From natural or man-made pollution

5.0 ***Stand-alone vulnerability assessment***
5.1 From loss of roadway access
5.2 From loss of emergency vehicle access
5.3 From loss of services for several weeks
5.4 From loss of police, fire, and medical response
5.5 From loss of electrical power, telephones, gas, and water
5.6 From loss of personal access to the building

6.0 ***Internal building risk assessment***
6.1 From an explosion
6.2 From an electrically caused fire
6.3 From a chemical spill
6.4 From loss of life from fumes of chemicals stored inside
6.5 From flooding from a water pipe break
6.6 From loss of electrical power
6.7 From loss of winter heating or heat relief
6.8 From structural collapse

6.9 From loss of external communications
6.10 From collection damage from any of the above items

7.0 ***Organizational risk assessment***
7.1 From loss of organizational ability to operate
7.2 From loss of organizational financial budget
7.3 From loss from demonstration, strike, and work stoppage
7.4 From loss of authority of the emergency staff to act
7.5 From inability of emergency team to contract emergency services
7.6 From inability of emergency team to obtain expert advice
7.7 From inability of emergency team to control the premises
7.8 From inability of emergency team to supervise staff
7.9 From inability of emergency team to use resources
7.10 From loss of public relations and press control

From International Council of Museums, International Committee on Museum Security, *Museum Security Survey*, Paris, 1981.

Action Guide 12B
Emergency plan guide for museums and other cultural institutions

1.0 *Purpose and authorization for the emergency plan*
1.1 The objective or statement of purpose of the plan
1.2 The responsibilities which this plan contains
1.3 The extent of emergency events specified in this plan
1.4 The relationship of this plan to other institution and external plans

2.0 *Emergency team formation*
2.1 conditions requiring the start of the plan and the formation of the emergency
2.2 The emergency plan organization and operation chart, with relationships to other organizations which have specific roles in the plan
2.3 A list of the emergency team and trained emergency volunteers with their current telephone numbers and addresses
2.4 A list for emergency staff on duty and their responsibilities
2.5 An inventory of emergency team resources with specific locations and purposes at stored supplies
2.6 An inventory of communications equipment and their locations
2.7 A written register and camera to record each activity, notification, and item of information received

3.0 *Emergency team instructions, activities, and immediate resources*
3.1 Immediately available copies of the emergency plan
3.2 Notification lists containing names, addresses, current telephone numbers, and roles of each person and a second person who is very important to the plan similar to the form in Action Guide 12C
3.3 The institution organization and operation chart and a list of staff, volunteers and other workers and required keys
3.4 The institution floor plans and blueprints locating major items of value evacuation routes, and master turn-off switches for electricity, gas, and water
3.5 A list of persons in organizations who must assist in specific emergencies such as persons from public service companies, hospitals, ambulance, plumbing, electrical, glass, and other contractors and businesses, with their telephone numbers, authority to act, and payment system similar to the form in Action Guide 12C

4.0 *Inventories of assets, expected actions, and controls*
4.1 An inventory and location of assets and an identification of assets requiring special security or conservation protection similar to the guideline in Action Guide 4B
4.2 Actual emergency procedures for each emergency and for multiple emergencies
4.3 Details of relationships for emergency assistance from private, government and emergency organizations
4.4 Plans and agreements for the relocation or evacuation of valuable objects

5.0 *Inventories of resources*
5.1 An inventory of items to borrow or rent, with the person or organization to call and the telephone number and delivery and payment arrangements similar to the form in Action Guide 12C
5.2 A list of specialists and professionals to call for expert advice and guidance
5.3 Miscellaneous information which might assist in deciding and reducing the confusion generated in an emergency

From the Office of Protection Services, Smithsonian Institution, Washington, D.C.

ACTION GUIDE 12C
Emergency calling or notification guide for museums and other cultural institutions

Notice: posted at a location well known to the staff

1.0 *Emergency manager and team members*
1.1 Emergency command center location
1.2 Emergency/disaster plan copies storage location
1.3 Date that it was last updated

2.0 *Internal notification list, with name, office telephone or intercom, home telephone, and address, and when to contact*
2.1 Director
2.2 Press and legal
2.3 Buildings and grounds
2.4 Emergencies or loss
2.5 Collection damage

3.0 *External telephone calling list, with number for emergency and number for information and investigation, and when to contact*
3.1 Fire
3.2 Police
3.3 Medical ambulance
3.4 Nearest hospital
3.5 Poison control
3.6 Bomb squad
3.7 Civil defense office
3.8 Nearest shelter and capacity
3.9 Nearest supplies
3.10 Nearest communication

4.0 *Evacuation services, with personal name, company name, work telephone, home telephone, how to pay, and when to contact*
4.1 Buses - short notice
4.2 Large vans/movers
4.3 Special equipment/vehicles

5.0 *Emergency utility services, with personal name, company name, work telephone, home telephone, how to pay, and when to contact*
5.1 Plumber
5.2 Electrician
5.3 Heating
5.4 Gas/oil
5.5 Ventilation/air conditioning/fans
5.6 Cleanup service
5.7 Construction/tarpaulins
5.8 Telephone/intercom repair
5.9 Electrical power repair
5.10 Emergency lighting or generators
5.11 Water department
5.12 Emergency pumps

5.13 Sewer
5.14 Rubbish removal

6.0 *Emergency security and conservation, with personal name, company name, work telephone, home telephone, how to pay, and when to contact*
6.1 Emergency guard or attendant services
6.2 Alarm services
6.3 Boarding-up
6.4 Local conservator
6.5 Nearest laboratory
6.6 Nearby institution
6.7 Nearby refrigeration/freeze-drying

From Guidelines for Cultural Protection Resources of *On Guard - Security is Everybody's Business*, Office of Museum Programs, Smithsonian Institution, Washington, D.C., 1983.

ACTION GUIDE 12D
Emergency services and supplies guide for museums and other cultural institutions

1.0 *Staff members and alternatives to be called in case of disaster*
1.1 Designated disaster team
1.2 Primary administrator
1.3 Building maintenance manager
1.4 Cataloger, registrar, or collections manager
1.5 Preservation administrator or conservator
1.6 Security guard or attendant manager

2.0 *Emergency life-saving and firefighting support*
2.1 Alternative firefighting system
2.2 Shelter
2.3 Life support and medical supplies for staff and public caught at the institution
2.4 Transportation of unrequired persons away from the institution when no other transportation is available

3.0 *Major building protection measures*
3.1 Locations of fire extinguishers
3.2 Emergency power equipment
3.3 Safety equipment
3.4 Hand tools
3.5 Construction supplies
3.6 Flashlights or torches and batteries
3.7 Communications appliances
3.8 Sandbags
3.9 Blueprints
3.10 Keys
3.11 Vehicles
3.12.0 Control points
3.12.1 Intercom centers
3.12.2 Electricity main switch
3.12.3 Gas main valve
3.12.4 Water main valve
3.12.5 Sprinkler system main valve
3.12.6 Alarm power control switch
3.12.7 Telephone main wiring system

4.0 *Emergency assistance organization contacts for the fire department*
4.1 Police or military unit
4.2 Hospital and ambulance unit

4.3 Bomb disposal unit
4.4 Rescue unit
4.5 Disaster preparedness/civil defense office
4.6 Rubbish removal company
4.7 Power company
4.8 Conservation center
4.9 Nearby cultural institution
4.10 Insurance company
4.11 Lawyer or legal adviser

5.0 *Major emergency equipment and supplies*
5.1 Portable or walkie talkie radios
5.2 Rescue equipment
5.3 Welding equipment
5.4 Automobile or battery-powered portable telephone
5.5 Transistor radios
5.6 Medical supplies
5.7 Nearest civilian broadcast radio
5.8 Electrical generator
5.9 Portable water pump
5.10 Large window or floor fans
5.11 First aid kits and other medical supplies

6.0 *Supplies and equipment for mucking-out and clean-up*
6.1 Detergents
6.2 Bleaches
6.3 Fungicides
6.4 Disinfectants
6.5 Ammonia
6.6 Cleaning powders
6.7 Brooms
6.8 Mops
6.9 Scoops or shovels
6.10 Sponges or rags
6.11 Buckets
6.12 Water hoses
6.13 Plastic bags

7.0 *Tools and equipment for demolition and rescue*
7.1 Repair kits
7.2 Hammers
7.3 Wrenches
7.4 Pliers
7.5 Screwdrivers
7.6 Wood saws
7.7 Knives
7.8 Pry bars

7.9 Axes
7.10 Rope
7.11 Handcarts
7.12 Two-wheel hand trucks
7.13 Tape measure
7.14 Hydraulic jack
7.15 Block and tackle
7.16 Water hydrant tools
7.17 Ladders

8.0 *Construction materials*
8.1 Plywood for windows
8.2 Plastic sheeting for waterproofing
8.3 Basic construction lumber
8.4 Nails and other fasteners
8.5 Waterproof tape
8.6 Rope
8.7 Wire

9.0 *Conservation supplies and equipment suited to the nature of the collections*
9.1 Polyester, mylar, and polyethylene film
9.2 Unprinted newsprint
9.3 Polyethylene bags
9.4 Plastic bags
9.5 Thymol
9.6 Acetone
9.7 Silica gel
9.8 Different tapes
9.9 Denatured alcohol
9.10 Japanese tissue
9.11 Towels
9.12 Clothes pins

10.0 *Contracted and contractable emergency services such as*
10.1 Electrical
10.2 Plumbing
1 0.3 Construction contractor
10.4 Storage space
10.5 Exterminator
10.6 Museum services
10.7 Library services
10.8 Conservation services
10.9 Carpenter
10.10 Freeze-drying
10.11 Refrigeration and refrigeration trucks
10.12 Locksmith
10.13 Security services

10.14 Moving services
10.15 Rubbish removal
10.16 Janitorial
10.17 Windows
10.18 Tree removal
10.19 Road repair
10.20 Roofing
10.21 Boxes and other containers
10.22 Laborers

11.0 *Contract for a local company to supply perishables*
11.1 Emergency food and water
11.2 Medical supplies
11.3 Batteries for flashlights and portable radios

From John Hunter, *Emergency Disaster Plan*, US National Park Service, Omaha, NB, 1983.