BRITISH COLUMBIA Emergency Management System

2016

BRITISH COLUMBIA

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LOCAL AND REGIONAL AUTHORITIES

- BC Emergency Health Services
- Emergency programs
- Fire departments
- First Nations
- Integrated Partnership for Regional Emergency Management in Metro Vancouver (IPREM)
- Municipalities
- Police services
- Provincial Health Services Authority
- Regional districts
- Rural and urban communities
- TransLink
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- BC Coroners Service
- BC Ferries
- BC Housing
- BC Hydro
- BC Oil and Gas Commission
- Emergency Management BC
- Ministry of Agriculture
- Ministry of Children and Family Development
- Ministry of Community, Sport and Cultural Development
- Ministry of Education
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- Ministry of Health
- Ministry of Transportation and Infrastructure
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CORPORATE SECTOR

- FortisBC
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- International Federation of Red Cross and Red Crescent Societies
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A list of these references is provided at the end of this guide.

Contents

Foreword

British Columbia is filled with vibrant communities and natural beauty, which make it an incredible place to live and work. However, the rugged beauty of our location and landscape can result in potential challenges to our management of emergencies.

It is our government's priority to give emergency personnel and emergency management representatives the tools necessary to ensure a coordinated and organized approach to emergencies and disasters. To guarantee this priority we have brought in innovative legislation, developed full-scale emergency response exercises, and adopted the British Columbia Emergency Management System (BCEMS) – a comprehensive framework that provides a structure for a standardized approach to developing, coordinating and implementing emergency management programs across the province.

While the safety of British Columbians was greatly improved by adopting the BC Emergency Response Management System (BCERMS) in 2000, stakeholder feedback and an Emergency Management BC review in 2011 determined there was a clear need for an update to reflect operational experience, best practices, organizational changes and shifts in the global field. We were faced with a choice – to continue down the path we'd become accustomed to, or to lead our province in a new direction – a direction that addresses current challenges and prepares us for the future.

BCERMS has evolved into a four-phase emergency management system – Mitigation, Preparedness, Response and Recovery – rather than focusing exclusively on emergency response. This evolution resulted in the preparation of this BCEMS guide, which describes the broader picture of emergency management in BC and provides a more integrated approach for those who are responsible for emergency management and public safety.

As the Minister of State for Emergency Preparedness, I can assure British Columbians and our emergency management partners that not only does our government endorse this guide, but we are also committed to exercising and refining it to identify and close all apparent gaps.

Recognizing the successful implementation of any reform requires the support of all levels of government, non-government organizations, volunteers, and private and public sector agencies, I'd like to thank the many people who contributed their perspectives, comments and feedback in the development of this important initiative.

It is our time to lead and B.C. is capable. This is another step in the right direction to protecting the safety of all British Columbians.

Minister of State for Emergency Preparedness Naomi Yamamoto

1 – Introduction

The British Columbia Emergency Management System (BCEMS) is a comprehensive framework that helps ensure a coordinated and organized approach to emergencies and disasters. It is intended to:

- Provide a structure for a standardized approach to developing, coordinating, and implementing emergency management programs across the province
- Establish guiding principles, processes, and a common terminology, thus enabling a range of stakeholders to participate in all phases of emergency management
- Emphasize integration and partnerships that facilitate communication and coordination on all levels

Developed under the authority set out in the BC *Emergency Program Act* and the Emergency Program Management Regulation, BCEMS is standard practice for all provincial government ministries and Crown corporations as indicated in the Regulation. It is recommended as best practice for all emergency management stakeholders in BC and applies to emergencies, disasters, and catastrophic events.

BCEMS evolved from and expands on the framework previously in place across the province – the BC Emergency Response Management System (BCERMS). More information on the history and development of BCEMS and how it differs from BCERMS is provided on page 17.

NOTE

With BCEMS incorporating the mitigation, preparedness, response, and recovery phases of emergency management, provincial government ministries and Crown corporations will need to determine the interface between BCEMS and other legislative requirements.

This BCEMS guide is intended for those who exercise responsibilities in the areas of emergency management and public safety, whether in the public or private sectors. Its purpose is to:

- Promote understanding of the BCEMS framework, including legislation relevant to emergency management, guiding principles, terminology, etc.
- Describe the four phases of emergency management and the components of each phase
- Enable emergency management practitioners in BC to apply BCEMS in assessing, developing, and strengthening their emergency management programs

2 – Governance

Legislated levels of responsibility in emergency management

Emergency management legislation and regulations set out the legal basis and authority for actions taken by government to manage emergencies/disasters. They also describe the responsibilities and powers of various levels of government in mitigating, preparing for, responding to, and enabling recovery from emergencies/disasters.

Here is an overview of key legislation and regulations relevant to emergency management in BC:

LEVEL OF GOVERNMENT	LEGISLATION/REGULATION	WHAT IT DOES
Federal	*Emergencies Act*	Authorizes special temporary powers for federal agencies to ensure safety and security during a national emergency. These measures are extraordinary and specific to the four types of national emergencies: • Public welfare emergencies (natural or human disasters) • Public order emergencies (threats to internal security) • International emergencies (external threats) • War
	Emergency Management Act	Establishes the legislative foundation for an integrated approach to federal emergency management activities • Recognizes the roles that all stakeholders must play in Canada's emergency management system • Clarifies the leadership role and responsibilities of the minister responsible for public safety, including coordinating emergency management activities among government institutions and in cooperation with the provinces and other entities • Clarifies the emergency management responsibilities of all other federal ministers

LEVEL OF GOVERNMENT	LEGISLATION/REGULATION	WHAT IT DOES
Provincial (BC)	*Emergency Program Act*	• Clarifies the roles and responsibilities of the provincial government and local authorities (municipalities or regional districts) • Provides extraordinary powers to the provincial government and/or local authorities where required • Requires local authorities to create and maintain an emergency management organization • Allows for the provision of support to victims of disasters through the Disaster Financial Assistance (DFA) Program • Exempts emergency service workers from civil liability
	Emergency Program Management Regulation	• Tasks government ministers with developing emergency plans and procedures • Identifies the ministers responsible for coordinating government response to specific hazards • Lists the duties of ministries and Crown corporations in an emergency/disaster
	Other provincial legislation and regulations, including: • *Environmental Protection Act* • *Public Health Act* • *Water Act* • *Wildfire Act* • Transportation regulations	• Identifies the responsibilities and tasks assigned to provincial ministries, Crown corporations, and stakeholders that relate to the role/function addressed in the legislation/regulation
Local authority (municipality, regional district, or Treaty First Nation)	Local Authority Emergency Management Regulation (This regulation is part of the *Emergency Program Act.*)	• Tasks each local authority with establishing and maintaining an emergency management organization • Empowers the local authority to appoint committees and a coordinator for the emergency management organization • Authorizes the local authority to delegate its powers and duties under the Act as may be required • Requires the local authority to prepare local emergency plans

Local authorities establish their emergency management organizations generally through the passage of an emergency bylaw that:

- Defines emergency management requirements
- Establishes the emergency management organization, sets out its terms of reference, and lists its responsibilities
- Outlines the powers of the council, including the power to declare a state of local emergency
- Funds emergency management
- Authorizes mutual aid agreements
- Provides an interface between the emergency management organization and other local departments and agencies involved in mitigation or prevention measures

Private sector industries, organizations, and agencies are expected to meet the emergency management requirements set forth in legislation and regulations that govern their areas of operation. For example, Part 4 of the Occupational Health and Safety Regulation, which falls under the oversight of WorkSafeBC, requires businesses and other employers to establish emergency preparedness and response procedures, equipment, and training for their workplace.

In addition to meeting legislated and regulatory requirements, both private and public entities may be guided by CSA Z1600, *Emergency and Continuity Management Program,* a comprehensive standard for emergency management and business continuity programs. The standard was developed by the Canadian Standards Association (CSA), an organization accredited in Canada and other countries to develop standards for processes, technologies, and products.

NOTE

Emergency management practitioners must adhere to all other applicable legislation and regulations not mentioned above.

Oversight of BCEMS

Three provincial government entities play key oversight roles with respect to BCEMS.

- **Inter-Agency Emergency Preparedness Council (IEPC)**
  - The IEPC is composed of representatives from the provincial government ministries and Crown corporations listed in Schedule 2 of the Emergency Program Management Regulation. It is co-chaired by the Minister of State for Emergency Preparedness under the Ministry of Transportation and Infrastructure, and a representative of any other member ministry or agency.
  - IEPC facilitates the coordination of the emergency plans and procedures that all government ministries must develop and set in place.
  - The council struck a steering committee from among its member agencies to oversee BCEMS.
- **BCEMS Steering Committee (BSC)**
  - Reporting to the IEPC, the BSC is co-chaired by Emergency Management BC (see below) and a representative of any other member ministry or agency.
  - The committee is responsible for the governance and maintenance of BCEMS. It has provided oversight for the preparation of this guide, which reflects the input of and feedback from a range of emergency management stakeholders.
- **Emergency Management BC (EMBC)**
  - EMBC is the provincial government's lead coordinating agency for all emergency management and business continuity activities. Operating under the oversight of the Minister of State for Emergency Preparedness, it is responsible for executive coordination, strategic planning, and multi-agency integration in the area of emergency management.
  - Ownership of the BCEMS guide resides with EMBC, which is responsible for reviewing BCEMS every four years to ensure that the system continues to reflect best practice and meet the needs in the field.

NOTE

An individual or group who wishes to recommend a substantive change to BCEMS should submit a proposal to EMBC, who ensures that it is forwarded to the IEPC co-chairs for review and action. Any changes to BCEMS shall be documented in this guide, and the appropriate updates posted on the EMBC website.

3 – Foundations of BCEMS

History and background

Adoption of BCERMS

In 2000 the Province of British Columbia developed and adopted the BC Emergency Response Management System (BCERMS). The adoption was formalized through the publication of the *BCERMS Overview (Interim)* by IEPC and the Provincial Emergency Program (PEP), the predecessor of EMBC.

BCERMS utilized the structure and fundamentals of the Incident Command System (ICS). Originally developed as a fire response management system by various jurisdictions in the United States, ICS has been widely adopted by first responders and emergency management programs throughout North America.

The use of BCERMS was made mandatory for the BC government and was adopted by numerous local authorities and stakeholders from across the province. The system was designed to:

- Standardize the process for delivering a coordinated response to emergencies/disasters
- Guide key government ministries and Crown corporations in preparing their emergency plans
- Clarify the emergency response functions of supporting ministries

BCERMS review

In 2009 EMBC conducted a thorough review of BCERMS. This study concluded that despite BCERMS' many successes, there was a clear need to update it to reflect operational experience, best practices, organizational changes, and shifts in the field of emergency management. The study specifically recommended that BCERMS evolve to a four-phase emergency management system, rather than focus exclusively on emergency response.

In 2011 the BCERMS Refresh Project began, which involved emergency management stakeholders from across the province. The project resulted in the preparation of this guide, which describes the modified system, now called BCEMS, which incorporates the four phases of emergency management. (More information on these phases is provided in subsequent chapters of this guide.)

Essentials of BCEMS

Vision

Resilient communities across British Columbia

Mission

To facilitate the use of a proactive, collaborative, and integrated approach to emergency management to minimize loss and promote effective response and recovery in BC

Purpose

BCEMS is a comprehensive framework that helps ensure a coordinated and organized approach to emergencies/disasters. It provides a structure for a standardized approach to developing, coordinating, and implementing emergency management programs across the province.

Guiding principles

These guiding principles reflect the fundamental values that influence the practice of emergency management in BC.

- **Health and safety**
  Health and safety are of primary importance in emergency management. The equal dignity of all people must be respected, along with their customs and culture, and their fundamental right to the necessities of life.
- **Shared responsibility**
  Emergency management is a responsibility shared by all – government, business and industry, not-for-profit organizations, and the public. Stakeholders comply with applicable legal and regulatory obligations by developing and implementing plans to manage disasters within their jurisdiction, organization, or area of responsibility.
- **All-hazards approach**
  Potential hazards that may cause an emergency/disaster are identified, prioritized, and addressed in order to mitigate risk and consequences.

- **Collaboration and stakeholder engagement**
  Stakeholders collaborate in pursuing an integrated and unified approach to emergency management, thus enhancing capabilities and capacity, and reducing costs. Open lines of communication, mutual respect, and effective coordination of multi-agency efforts lay the foundation for this approach.
- **Common approach**
  BCEMS is the required practice for provincial ministries and Crown corporations. Other stakeholders are strongly encouraged to use this framework. BCEMS is based on ICS principles, such as flexibility, scalability, and adaptability.
- **Clear communication**
  Valid, accurate information is communicated to stakeholders clearly and in a timely manner. This includes coordination of proactive public messaging on known and impending hazards before, during, and after an emergency/ disaster.
- **Continuous improvement**
  Continuous improvement is supported by a sharing of research, plans, education, training, exercise, and experience. Learning about what works and what does not work can help stakeholders better prepare for future emergencies/disasters. Hence, operational reviews, documentation, and feedback from those involved in the emergency management process are critical.

Four-phase approach to emergency management

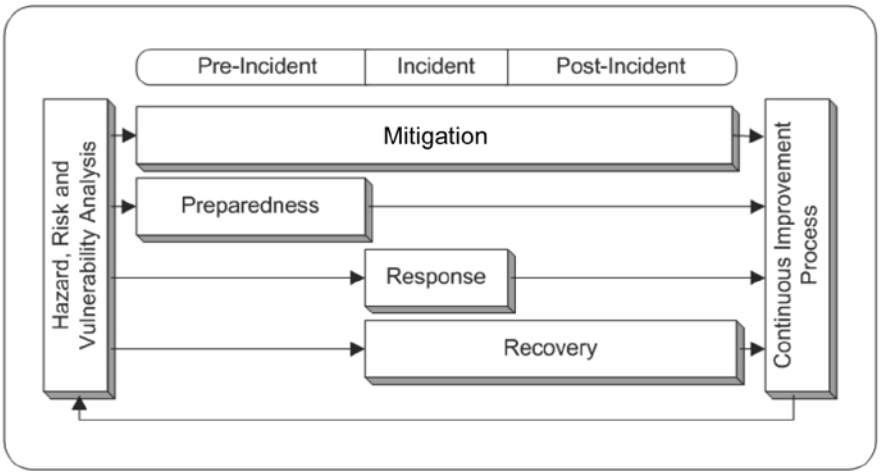
BCEMS views emergency management as a continuous process consisting of four interconnected phases. These may occur sequentially or, in some cases, concurrently, but they are not independent of each other.

PHASE	WHAT IT MEANS
Mitigation	• Steps are taken to identify, prevent, eliminate, or reduce the risk and impact of hazards. • The purpose of this phase is to protect lives, property, and the environment; reduce economic and social disruption; and improve response capabilities. • It covers structural measures (e.g., construction of floodways and dikes, earthquake retrofitting) and non-structural measures (e.g., building codes, land-use planning, tax and insurance incentives).

PHASE	WHAT IT MEANS
Preparedness	• Action is taken to prepare for emergency response and recovery. • Plans are created to support the continuity of emergency operations and other mission critical services. • Individuals, families, and neighbourhoods implement measures to prepare for and cope with the immediate impact of a disaster. • This phase includes the following activities: emergency and continuity planning, volunteer management, training, exercises, maintenance and continuous improvement, and public/stakeholder education.
Response	• Action is taken in direct response to an imminent or occurring emergency/disaster in order to manage its consequences. • The plan for continuity of emergency operations is activated, if necessary. • This phase involves measures to limit loss of life, minimize suffering, and reduce personal injury and property damage associated with disasters. Examples include emergency public/stakeholder information, fire-fighting, search and rescue, emergency medical assistance, evacuation, site support, and agency coordination.
Recovery	• Steps are taken to repair a community affected by a disaster and restore conditions to an acceptable level or, when feasible, improve them. (Note: The term “community” refers to everyone who is or could be affected by an emergency/disaster. This includes all levels of government, agencies, not-for-profit organizations, businesses, and individuals.) • This phase consists of several stages and works toward disaster risk reduction to minimize future damage to the community and environment. • It includes measures such as the return of evacuees, provision of psychosocial support, resumption of impacted businesses and services, provision of financial assistance, conduct of economic impact studies, and reconstruction. These measures are taken after an emergency/disaster in as timely a manner as possible.

The following diagram illustrates the four phases of emergency management. More detailed information on each phase is provided in subsequent chapters.

FOUR PHASES OF EMERGENCY MANAGEMENT



NOTE

The table that begins on page 19 mentions the concept of continuity of operations in the preparedness and response phases of emergency management. The term "continuity" is used in various ways. In a private sector environment, the term "business continuity" is well-suited to its purpose. In this document, business continuity is often referred to as "continuity of operations" to better reflect a focus on ensuring that emergency response operations remain viable regardless of the cause or impact of a disruption to the work environment. Regardless of how continuity is described, its function is to protect and resume critical services when standard operational responses are unavailable or overwhelmed.

4 – Getting Started

Implementing the BCEMS framework begins with the following:

- Establishing an emergency management program
- Identifying stakeholders
- Conducting a hazard, risk, and vulnerability analysis (HRVA)

Establishing an emergency management program

Purpose

Emergency management programs exist at the federal, provincial, and local levels, as well as within private sector entities. These programs provide a centre of responsibility for the actions that need to be taken before, during, and after an emergency/disaster in order to promote safety and security, protect the environment, and reduce property and financial losses.

Organization

Section 6(3) of the *Emergency Program Act* states that local authorities "must establish and maintain an emergency management organization to develop and implement emergency plans and other preparedness, response, and recovery measures for emergencies and disasters."

For local authorities and most private sector entities, the term "emergency management program" refers to a specific department or group within the organization that assumes overall responsibility for emergency planning and facilitates the implementation of activities during each phase of the emergency management process.

NOTE

To ensure that an emergency management program is effective and able to achieve success, high-level support is required (e.g., from the chief executive officer, president, or chief administrative officer of the organization; from the mayor and council; etc.).

The program is generally led by an emergency program coordinator (may also be referred to as planner, manager, or director), who may or may not have subordinate personnel. The emergency program coordinator is responsible for the day-to-day management of the program. The duties associated with this position should be clearly defined, and the appropriate level of authority and decision-making ability provided.

In general, the local authority/private sector entity forms an emergency management committee, which is usually chaired by the emergency program coordinator. The committee's main function is to provide guidance and strategic direction for the program. It is usually composed of the following:

- **In the case of local authorities**
  A senior administrator and a representative from each local authority department (e.g., fire, engineering, finance, and planning) and from local law enforcement, the ambulance service, emergency social services, public health, and the school district
- **For private sector entities**
  Senior executives and representatives of divisions, branches, or offices within the organization

In both cases, representatives of external groups – such as provincial and federal agencies, utilities, volunteer organizations, etc. – may be invited to attend committee meetings.

Emergency management committees have various tools at their disposal to facilitate the planning and documentation of their efforts. Two notable tools are:

- **Annual work plans**
  These are beneficial for ensuring that time, effort, and resources are focused on priority activities.
- **Annual reports**
  These are used to document emergency training, exercise outcomes, preparedness, and public/stakeholder awareness that the program has been able to achieve. These reports can also assist in ensuring program maintenance and continuous improvement.

Elements

An emergency management program has the following key elements:

ELEMENT	WHAT IT COVERS
Governance	Requirements set out in legislation, regulations, and policy; establishment of authority, lines of communication and reporting for the program, organizational staffing, and funding
Planning	At minimum, development of an understanding of hazards/ risks and preparation of a basic emergency plan that will guide the actions of the organization before, during, and after an emergency/disaster (The plan should delineate the roles and responsibilities of all involved parties.)
Resourcing	Identification of personnel, facilities, and equipment; establishment of mutual aid agreements and partnerships
Training	Development and implementation of activities (e.g., courses, information sessions, and educational materials) to train staff, volunteers, stakeholders, and the public on their respective roles in emergency management and in the implementation of emergency plans
Exercises	Development and implementation of exercises (e.g., drills, and table-top exercises) to test the emergency plan, procedures, and equipment
Public/stakeholder awareness and education	Planning and implementation of initiatives to educate the public/stakeholders on emergency mitigation, preparedness, response, and recovery; to increase resilience; and to encourage participation in volunteer programs
Maintenance and continuous improvement	Establishment of mechanisms to review the emergency program and its emergency plans (after testing or implementation), consider lessons learned, and revise the program and plans accordingly

Identifying stakeholders

Effective emergency management requires collaboration and cooperation among internal and external stakeholders through all phases of the process. Thus, emergency management programs seek to develop close ties with those they may call upon for support. These partnerships can be built through various means, such as:

- Consulting with internal organizations and resources, such as those involved in risk management, business continuity, and information technology
- Establishing multi-agency committees (e.g., a regional emergency planning committee or advisory group)
- Delivering joint training on emergency planning, response, and recovery
- Conducting multi-agency exercises
- Creating mutual aid agreements

The following table lists the various stakeholders who play a role in emergency management.

WHO THEY ARE	WHAT THEY CAN DO
Government • All levels of government • Crown corporations • Responder agencies • Health authorities • School districts • First Nations	• Provide leadership throughout the four phases of emergency management • Provide information and guidance on emergency mitigation, preparedness, response, recovery, and reconstruction • Provide input to an HRVA • Promote resilience by sharing knowledge, expertise, and resources across geographic and social jurisdictions • Develop and implement comprehensive emergency plans • Write, resource, and exercise plans to ensure the continuity of emergency and essential services • Build redundancy in critical systems, such as energy/ power, technology, and telecommunications • Share plans (e.g., for protecting community assets; for improving economic and psychosocial supports to community members) • Coordinate preventive action across jurisdictions • Address emergency management issues related to critical infrastructure for which they are responsible • Ensure coordinated public messaging • Establish collaborative agreements

WHO THEY ARE	WHAT THEY CAN DO
Government (continued)	• Provide resources (e.g., through the Disaster Financial Assistance [DFA] Program) and services (e.g., Disaster Psychosocial Program [DPS]) • Coordinate community recovery and revitalization activities
Critical infrastructure owners/operators	• Identify, prioritize, protect, and restore their infrastructure sector[1] • Develop and test comprehensive emergency plans and business continuity plans • Participate in mitigation, preparedness, response, and recovery initiatives, including those of mutual aid and stakeholder agencies • Send representatives to the Emergency Operations Centre (EOC) to provide information about threatened or actual service disruptions (More information about EOCs is provided on page 56.) Note: Critical infrastructure owners/operators are part of the business and industry sector. Hence, the activities listed below for this sector apply equally to the critical infrastructure sector.
Business and industry	• Conduct a risk assessment to identify the risks and hazards they face • Conduct a business impact analysis to identify critical services and determine recovery time objectives • Build redundancy (e.g., obtain back-up generators; establish alternate locations for their operations) • Reduce vulnerabilities (e.g., ensure that data is backed up; identify critical assets) • Create and implement an emergency plan and a business continuity plan • Provide input to an HRVA • Educate and train employees responsible for workplace safety • Establish strong relationships, support networks, and support agreements and contracts • Draw upon mutual aid relationships and contracts as well as the DFA Program (where applicable) to obtain temporary support for business recovery • Where possible, provide equipment, services, expertise, and other resources to support recovery efforts

[1] There are ten nationally recognized critical infrastructure sectors: water, food, transportation, health, energy and utilities, safety, telecommunications and information technology, government, finance, and manufacturing.

WHO THEY ARE	WHAT THEY CAN DO
Not-for-profit organizations • Faith-based groups • Community groups • Humanitarian agencies • Other volunteer organizations	In collaboration with the local authority: • Gain an understanding of community needs • Identify individuals, families, or groups who have special needs that may be intensified by a disaster • Develop and implement plans for disaster relief • Use established networks to gain access to resources • Prepare themselves for an emergency/disaster • Provide assistance and services in support of response and recovery efforts (These groups provide services in many areas: shelter, food, clothing, first aid, medical aid, personal hygiene, mental health, emotional/spiritual support, logistics management, physical reconstruction, transportation management, children's services, case management, family reunification, animal services, etc.) • Coordinate recovery/community resilience centres (For more information, see page 97.) • Coordinate supplies from private partners • Manage donations
Individuals	• Seek out information and education on the hazards and risks they face • Take preventive action • Purchase adequate insurance • Ensure that, in an emergency/disaster, they are prepared to take care of themselves for a minimum of 72 hours • Get involved in the local authority emergency management program

Emergency management programs should also consider engaging with colleges and universities in their area. The human and physical resources of these institutions could prove to be major assets to an emergency program:

- Most colleges and universities have large-scale food preparation and residential facilities that may be underutilized during certain times of year (e.g., the period from May to August, which is fire season).
- They have the ability to host training and exercises year round.
- Their strategic locations across the province make them ideally suited for consideration as host sites for the Provincial Earthquake Response and Recovery Centre (PERRC). For more information on the PERRC, see page 59.
- They can be contracted to assist with/develop business recovery programs.
- Many have the space and infrastructure to provide for expanded telephone, broadband, and electrical services; the setting up of portables; and the allocation of space for a heliport.

Conducting an HRVA

Definition

A hazard, risk, and vulnerability analysis (HRVA) is an assessment of:

- **Hazards**
  These are sources of potential harm, or situations with a potential for causing harm, in terms of human injury; damage to health, property, the environment, and other things of value; or some combination of these.
- **Risk**
  This refers to the likelihood that a hazard will occur, as well as the severity of possible impact to health, property, the environment, or other things of value.
- **Vulnerability**
  This refers to the people, property, infrastructure, industry, resources, or environments that are particularly exposed to adverse impact from a hazardous event.

In its analysis, an HRVA considers several factors, including the unique geographical area and functions of a community or organization, and any societal, environmental, economic, political, or reputational risks. The results of an HRVA give the emergency management program the information it needs to develop an emergency plan, set priorities for action, and allocate time and resources accordingly.

Process and participants

An HRVA is conducted before emergency plans are developed. It is a preparatory activity that is best achieved through an inclusive, collaborative process involving community members and groups, private industry, and government. Hazard experts may also be involved.

The HRVA is reviewed and updated regularly to incorporate changes in hazards, risks, and vulnerabilities.

Outcomes

A broad HRVA leads to the following outcomes:

- Identification of relevant hazards and risks
- Assessment of the impact and consequences of these hazards and risks
- Analysis of the capabilities and capacity available for dealing with these hazards and risks
- Priority setting for mitigation, planning, response, and recovery
- Development of plans to address the identified hazards and risks through mitigation, preparedness, response, and recovery strategies/activities
- Understanding of a community/organization's risk tolerance with respect to various factors (e.g., culturally sensitive sites, environmental concerns, economic issues, etc.)
- Guidance for land-use and construction decisions
- Enhanced public/stakeholder education and knowledge
- Assessment of the safety status of existing mitigation structures (e.g., diking infrastructure)

Detailed technical analyses of specific hazards and risks may also be conducted. In some cases, if the results of the broad HRVA indicate a significant risk to or vulnerability of the organization, more detailed technical assessments may be needed to better inform hazard-specific mitigation and planning. For example, if a local authority determines that earthquakes pose a significant risk to the community, the local authority may consult with technical experts to undertake more detailed analyses related to soil composition, seismic engineering assessment, and damage estimation modeling for key facilities and infrastructure, or social vulnerability assessments for special populations.

Components

The three components of an HRVA are:

- **Hazard and vulnerability identification**
  The process of recognizing that a hazard exists and defining its characteristics, and identifying current vulnerabilities in the community or organization
- **Risk analysis**
  The systematic use of information to estimate the chance and severity of injury or loss to people, property, the environment, or other things of value
- **Risk evaluation**
  The process by which a risk is examined in terms of a cost/benefit analysis and evaluated in terms of whether it is an "acceptable" risk based on the needs and concerns of stakeholders

5 – Mitigation

What is mitigation?

Definition

Mitigation is the phase of emergency management in which proactive steps are taken to prevent a hazardous event from occurring by eliminating the hazard, or to reduce the potential impact of such an event before it occurs. The goal of these efforts – as with all other emergency management activities – is to protect lives, property, and the environment, and to reduce economic and social disruption. In the context of climate change, mitigation is referred to as "adaptation," an adjustment made to a changing environment and actions taken to prepare for the occurrence.

Key considerations

In planning and implementing mitigation measures, the following are considered:

- **HRVA results**
  Through an HRVA, a community or organization is able to identify hazards that may affect them, estimate the potential for and severity of injury or loss due to these hazards, and set priorities for action. This information is critical for developing and implementing a mitigation plan. (Ideally, this planning and implementation occurs prior to an emergency/disaster, but may also take place during response, recovery, and preparedness phases, as unanticipated hazards and risks are identified.) For example, a flood risk may be addressed through various prevention and mitigation projects, such as:
  - Reinforcing structures
  - Protecting essential equipment
  - Building dikes
  - Removing gravel from flood corridors
  - Upgrading pumping stations
- **Critical infrastructure**
  Mitigation with respect to critical infrastructure is necessary and complex; in a disaster, the resilience of government, communities, businesses, and families depends in great part on the continued functioning of these assets. When developing mitigation measures for critical infrastructure, consider:
  - Interdependencies upon which the assets rely in order to function
  - Vulnerabilities based on the hazards, risks, and status of the infrastructure

- Consequences of service interruption, including secondary impact
- Prioritization of asset protection based on the consequences of disruption and the availability of resources
- Ways of protecting infrastructure

NOTE

The EMBC's critical infrastructure assessment tool is designed to facilitate this asset review process. Check the EMBC website for access to the tool.

- **Mitigation planning and implementation**
  Mitigation works are most effective when implemented as part of a comprehensive system that includes both structural and non-structural projects. Long-term mitigation techniques (such as retreating, creating spillways, or restoring marshlands) may provide opportunities to increase recreational enjoyment or enhance sensitive eco-systems. Multi-year mitigation plans, including provisions for maintenance and improvement, are most effective.
- **Pre- and post-disaster perspectives**
  Mitigation measures are evaluated both before and after an emergency/ disaster. Certain risks are known and may be dealt with before such an event occurs, while lessons learned from the experience of a disaster can lead to specific mitigation initiatives.
- **Potential impact of mitigation works**
  When evaluating the goals and objectives of a mitigation program, the potential impact of the proposed projects must also be evaluated. For example, the installation of a dike may shift the flood risk across or downstream. Large-scale structural mitigation works can be prohibitive in terms of cost or detrimental to the environment. As such, they should be considered only as a last resort, after all other mitigation options have been considered.
- **Integration of mitigation into overall planning and operations**
  Effective mitigation planning and implementation are not done in isolation. Rather, these efforts are part of the overall planning and day-to-day operations of the organization, and should be considered when other initiatives are implemented. For example, construction of stormwater detention ponds and swales can be timed to coincide with road upgrades or construction of new roads. Planning and execution of mitigation projects should run alongside capital planning, financial planning, emergency planning, continuity planning, and other organizational initiatives.

- **Engagement on all levels**
  Mitigation is a shared responsibility, and effective measures need not be large-scale to be effective. Supporting small-scale projects that individuals can implement will help reduce dependence on local authorities for protection against disasters. Projects can be undertaken at the property lot, neighbourhood, community, or regional levels. Examples of works at the property lot level are: the use of flood- and fire-resistant materials, rainwater management, and the employment of mitigation construction techniques and approaches.

Options for managing risk

Mitigation is about what can be done to manage risk. It starts with understanding existing and potential hazards (information obtained through an HRVA), and then deciding how to address them in a mitigation plan.

In general, there are four ways of responding to risk. These are described in the table provided below. Selecting an option most appropriate for a particular situation involves some measure of compromise. For example, one could accept a smaller risk to avoid a more serious one (e.g., when a person decides to take medication with certain side-effects, he or she is essentially accepting the risk associated with those side-effects in order to avoid facing the more serious risk of illness). In other situations, the compromise involves the issue of cost. A local authority may decide to accept the cost of infrastructure improvements (e.g., seismic upgrades of water/sewer systems) in order to avoid the loss of life or property damage caused by an earthquake.[2]

OPTION	WHAT IT MEANS
Risk acceptance	Doing nothing and accepting the risk: Risk acceptance is an explicit or implicit decision to accept the consequences of a given risk.
Risk avoidance	Effectively removing the exposure to a risk: With risk avoidance, a decision is made to completely remove the sources of a particular risk or remove oneself from a particular risk.
Risk control/reduction/ mitigation	Reducing the likelihood of a threat or hazard being experienced; reducing the likelihood that damage will result should the hazard or threat be experienced; or minimizing harm once a hazard or threat has been experienced
Risk transfer	Shifting some or all of the risk to another entity, asset, system, network, or geographic area. Risk transfer may not reduce the overall likelihood of a particular threat or hazard being experienced but it should make the consequences easier to bear.

[2] This information was adapted from the U.S. Federal Emergency Management Agency (FEMA) course entitled *Fundamentals of Risk Management,* which is found at http://emilms.fema.gov/IS454/RMPrint.htm.

Mitigation tools and activities

Mitigation involves tasks such as:

- Identifying hazards
- Assessing the potential impact of various types of emergencies/disasters
- Documenting the status of critical assets
- Managing various forms of risk
- Building resource lists and capturing other forms of vital information

A variety of tools and activities can help an emergency program accomplish these tasks. Some examples are provided below.

Examples

TOOL/ACTIVITY	PURPOSES
Hazard mapping and modeling	• Identifying high-risk areas (e.g., coastal inundation zones and flood plains) • Determining the potential for hazards such as soil erosion • Locating resources • Documenting facility locations • Creating a response plan, such as an evacuation plan • Deciding how best to mitigate the effects of a potential disaster
Land-use planning and construction techniques	• Assessing lands so that informed decisions can be made on their use and development • Creating bylaws and land-use convenants • Preventing or avoiding potential disasters through policies or practices that address development issues in hazardous areas • Establishing building requirements, landscaping regulations, and fire perimeters
Environmental practices	• Identifying hazards and managing risks such as contamination of the water supply and other forms of harm to the ecosystem, and the effects of phenomena such as storm surges and rising sea levels on the environment and on human welfare • Safeguarding the environment (e.g., through environmental protection legislation), thus reducing vulnerability to hazardous events • Implementing policies to address climate change impact and promoting adaptation

TOOL/ACTIVITY	PURPOSES
Infrastructure improvements	• Reducing risk through initiatives such as the seismic retrofitting of bridges and schools, construction and maintenance of dikes, and upgrading of telecommunications and fibre-optic lines • Including mitigation works in capital and infrastructure projects
Insurance	• Reducing the impact of loss, damage, or service/operational interruptions by covering the financial costs associated with risks that individuals, businesses, organizations, and governments might not otherwise be able to bear
Tax incentive programs	• Promoting mitigation techniques through tax incentives (e.g., stormwater management through bioswales or rain guards)
Measures undertaken by individuals	• Implementing minor mitigation measures, such as opting for permeable paving, securing furniture against falls during an earthquake, and limiting fuel loads (combustibles) to help prevent the spread of fires

NOTE

Through the National Disaster Mitigation Program (NDMP), the Government of Canada provides provinces and territories with funding to help share in the cost of flood mitigation measures (primarily non-structural) for improving resilience against floods, which currently account for the majority of payments through the Disaster Financial Assistance Arrangements. The NDMP is a merit-based process in which projects are selected based on objective and measurable criteria, such as risk assessments, project readiness, and return on investment for proposed projects.

Suggestions for successful implementation[3]

- **Taking advantage of the recovery phase**
  The recovery phase may be an opportune time to move forward on mitigation efforts. While the community or organization is recovering from an emergency/disaster, public/stakeholder awareness and support as well as potential funding for such efforts may be at their highest point.

[3] This information was adapted from the U.S. Federal Emergency Management Agency (FEMA) publication entitled *Local Mitigation Planning Handbook,* which is found at https://www.fema.gov/media-library/assets/documents/31598.

- **Starting small and moving quickly**
  Initial implementation could focus on relatively smaller, lower-cost projects that can be completed within a shorter time span. Early tangible results from such projects can help enhance public/stakeholder awareness and support, boost morale, and serve as the impetus for further action.
- **Getting the message across**
  An important aspect of implementation is communicating to the public, stakeholders, and funders the significance and importance of the mitigation strategy. Anticipate possible concerns that people might have about the mitigation projects covered by the strategy, and address them in a clear and convincing manner.
- **Identifying project champions**
  Having a community or organization leader lend visible support to a mitigation project would go a long way towards promoting the project and enlisting support from others.
- **Learning from others**
  Research into mitigation programs that have succeeded in other communities or organizations is time well spent.

Maintenance and continuous improvement

The following considerations should be addressed during the mitigation phase:

- **Degree of integration**
  Has the mitigation strategy been effectively integrated into the day-to-day operations of the community or organization?
- **Progress in implementation**
  - What progress has been made in implementing the identified mitigation actions?
  - Did the completed actions yield the desired results? If not, what were the barriers to achieving the stated goals? Does the action plan need to be revised to improve the likelihood of success?
  - If certain actions have not been completed, what were the reasons for non-completion? Will efforts be directed towards completing them, or have they become irrelevant due to changes in conditions?
  - What lessons have been learned from these implementation experiences that can be used to improve the plan?
- **Shifts in priority**
  A community or organization may change its mitigation priorities for various reasons, such as:
  - New hazards
  - Increase or decrease in funding or other resources
  - Presence of new stakeholders

- Recent experience of a disaster
- Changes in leadership
- New bylaws, regulations, or policies

6 – Preparedness

What is preparedness?

Definition

Preparedness is the phase of emergency management during which action is taken to ensure that individuals, businesses, and the jurisdiction/organization are ready to undertake emergency response and recovery. It includes planning, resource planning, volunteer management, training, exercises, public/ stakeholder education, and maintenance and continuous improvement.

Key considerations

When preparedness measures are developed and executed, the following are taken into account:

- **HRVA results**
  As mentioned previously, the results of an HRVA give an emergency management program the information it needs to set priorities for action and allocate time and resources accordingly. These results are a critical input to the development of emergency plans.
- **Context**
  Context refers to the circumstances in which an emergency/disaster may occur. It includes factors such as geographical location, population, and available funding, resources, and capabilities. These circumstances have an effect on the impact of the emergency/disaster and thus help determine the scope of the emergency plan, the range and types of activities the plan covers, and what can be expected of the target populations in terms of engagement and participation.
- **Outcomes of the mitigation phase**
  Any successful mitigation initiatives should be considered in the preparedness phase. If a hazard has been mitigated, preparedness efforts would then focus on residual risk.
- **Continuity of operations**
  Emergency operations can be hampered or delayed if responding organizations are also affected by the emergency/disaster. Continuity plans should be prepared to ensure that emergency operations continue despite the loss of power, facilities, IT infrastructure, and communication systems.

Preparedness activities

The preparedness phase involves the following activities:

- Planning
- Resource planning
- Volunteer management
- Training
- Exercises
- Public/stakeholder education
- Maintenance and continuous improvement

Planning

Goal

The primary goal of planning is to ensure the development of realistic and scalable emergency plans that describe clearly how people, property, and the environment will be protected in an emergency/disaster. Emergency plans are a road map of actions that will be taken when an emergency/disaster occurs.

NOTE

An effective all-hazards emergency plan is not a written document that is produced once and then forgotten. Neither is emergency planning a one-time process; rather, it is a continuous cycle of planning, training, exercising, evaluation, and corrective action.

Steps

The task of preparing an all-hazards emergency plan is facilitated when a step-by-step process is used. Here is a suggested model:

1	Determine the planning context so that planning parameters are identified and considered
2	Identify stakeholders and determine their roles so that they can be included in the process as appropriate
3	Review the HRVA results
4	Determine the purpose and scope of the plan

5	Consult stakeholders and collect data
6	Create the plan
7	Obtain feedback and approval
8	Conduct orientation and training
9	Exercise the plan
10	Evaluate, maintain, and continually improve the plan

Elements of an emergency plan

At minimum, a base emergency plan is produced, which consists of the following key elements:

ELEMENT	WHAT IT MAY CONTAIN
Authority	• Legislation, regulation, or policy that authorizes/ requires the plan • Letter of authority, where appropriate • List of applicable legislation
Purpose	• Statement of the intended outcome of the plan • List of measurable objectives
Scope	• Geographical or jurisdictional boundaries • Types of emergencies/disasters that will be dealt with • Planning parameters and assumptions
Roles and responsibilities	• Duties of key internal staff/functions, relevant departments, and external communities, agencies, or organizations • Lines of authority
Procedures, guidelines, and processes	• Organizational chart • Concept of operations (e.g., based on ICS) • Levels of activation • Procedures for activation, call-out, notification, communication, etc.

ELEMENT	WHAT IT MAY CONTAIN
Logistical support, facilities, and resource requirements	• List of facilities and equipment that will support emergency response and coordination, such as an Emergency Operations Centre (EOC) (More information about EOCs is provided on page 56.) • Reference to required technical services, facility maintenance, and resources • Resource management procedures
Communication and information management	• Tools and processes for managing information flow and various types of communication
Training and exercise programs	• Training needs and timelines • Exercise needs and timelines

The base emergency plan includes an inventory of internal resources and a list of external resource suppliers (including contact information for each). Determining in advance the type and quantity of required resources is key to effective planning and implementation. To obtain these resources, emergency management programs may need to enter into mutual aid agreements with other jurisdictions or parties.

Supporting plans may also be developed, such as a response plan, business continuity plan, recovery plan, evacuation plans, emergency information plan, hazard-specific plans, etc.

An effective emergency plan is one that:

- Meets the requirements set forth in legislation and regulations
- Is based on the risk profile of the community or organization as described in the HRVA
- Clearly delineates the roles of staff and partner agencies
- Incorporates a concept of operations that allows for scalability based on the needs arising from the emergency/disaster
- Identifies the resources required for implementation
- Is written in plain language
- Keeps explanations to a minimum and includes supplementary documents that focus on procedures and guidelines

Resource planning

Goal

The term "resources" refers to equipment, supplies, personnel, volunteers, and facilities available for assignment or staging in support of emergency management activities. During the preparedness phase, resource planning measures are implemented to help ensure that resources are available to be mobilized when called to an emergency/disaster, and that they are compatible and interoperable with one another.

Measures

The following resource planning measures are undertaken during this phase:

- Identification of resource needs based on the threats to and vulnerabilities of the jurisdiction/organization, and development of alternative strategies to obtain the needed resources
- If necessary, the creation of new policies to encourage the positioning of resources near expected incident sites in response to anticipated resource needs
- Anticipation of circumstances that may trigger a specific required action, such as the restocking of supplies when inventories reach a predetermined minimum
- Ongoing assessment of the status of resources in order to draw up an accurate inventory of resources available at any given time. Resources are organized by category, kind, and type, including size, capacity, capability, skill, and other characteristics. This makes the resource ordering and dispatch process more efficient and ensures that the required resources are received.
- Establishment of standing agreements and contracts among all parties providing or requesting resources
- Establishment of standing agreements and contracts with technical specialists

Volunteer management

Goal

As with all other phases of emergency management, preparedness is a shared responsibility, and therefore efforts should be made to engage individuals and groups on all levels. Volunteers (i.e., people who offer their services without expecting financial compensation) are a critical component of the emergency management process.

The goal of volunteer management during the preparedness phase is two-fold:

- First, organizations must determine whether there is a role for volunteers in supporting emergency management activities.
- Second, if there is such a role for volunteers, volunteer management plans must be developed to ensure the effective management of registered volunteers as well as emergent volunteers. (The latter are groups of people who come together as a result of the emergency/disaster to offer assistance in a particular area or for a particular task, and who are not yet formally affiliated with an incorporated organization.)

Potential sources of volunteers

British Columbia has established Public Safety Lifeline Volunteer (PSLV) programs that function at both the provincial and local levels to provide support during emergencies/disasters. These include the following groups:

- Emergency Radio Communications (ERC)
- Emergency Social Services (ESS)
- PEP Air
- Road Rescue
- Search and Rescue (SAR)

Various not-for-profit organizations also offer assistance during emergencies/ disasters.

NOTE

More information and resources are available through the Justice Institute of BC's Emergency Management Division at the following link: http://www.jibc.ca/programs-courses/schools-departments/school-public-safety/emergency-management-division/government-and-corporate/emergency-social-services.

Training

Goal

Training helps ensure that individuals and groups who play a role in implementing the emergency plan are ready to carry out their responsibilities. For this reason, the training curriculum ties in with planning documents, supports the emergency plan goals, and validates the plan.

Considerations

- **Formalized training**
  A formal training program, including target timelines, underscores the organization's commitment to the emergency plan and its support for personnel as they prepare for their roles.
- **Development of a training matrix**
  The work involved in training groups of personnel for a range of duties can be facilitated through the development of a training matrix. The matrix lists each identified role and the training required for it. Once the matrix is in place, individual courses can be planned and developed. A training matrix provides personnel with a road map to preparing for their emergency management responsibilities.
- **Review of training programs**
  To ensure that training programs continue to cover the necessary knowledge, skills, and abilities, feedback is sought from participants on whether their training needs are being met.

Types of training

- Individual or group orientations/workshops for personnel
- Executive-level briefings or presentations
- Function- or activity-specific training for staff and volunteers
- Cross-training for staff and volunteers to help enhance capacity
- Multi-agency training for key stakeholders for information-sharing purposes and to enhance coordination and collaboration
- Overview of the emergency plan for public officials to clarify their responsibilities during a major emergency/disaster

Exercises

Goal

Emergency plans are exercised to ensure that they are workable and to identify – before an emergency/disaster occurs – any implementation issues that must be resolved. They also provide the opportunity to further engage and train personnel, volunteers, and stakeholders. An exercise program will enhance operational readiness by:

- Validating the objectives of the emergency plan
- Testing systems, procedures, and equipment
- Identifying resource gaps and weaknesses in execution
- Clarifying roles and responsibilities
- Improving inter-agency coordination and communication

- Assessing the participants' knowledge and skills and their readiness to perform their duties in response to emergencies/disasters

Types of exercises

Exercise programs usually include exercises of varying size and complexity conducted according to a schedule. In general, exercises fall into one of two categories:

- **Discussion-based**
  Facilitated discussions allow participants to familiarize themselves with plans and procedures, and explore their application in specific emergency scenarios. Examples include orientations/seminars, workshops, and tabletop exercises.
- **Operations-based**
  These exercises validate training, plans, and procedures through the actual deployment of personnel, equipment, and other resources. Examples include drills, functional exercises, and full-scale exercises.

The following chart provides more detailed information on the purpose and focus of each type of exercise.

	TYPE	PURPOSE	FOCUS
DISCUSSION-BASED	Orientation/seminar	To provide participants with information on the subject of the exercise	Achieve a common level of understanding
	Workshop	To draw information from participants about specific exercise objective(s)	Share and record ideas
	Tabletop	To facilitate a discussion that addresses a specific emergency scenario	Apply plans, procedures, and training in discussing the response to an emergency/disaster
	Immersive simulation	To use technology to model how an emergency scenario would unfold in response to participant actions	Validate plans, procedures, and training in responding to a specific emergency/ disaster
OPERATIONS-BASED	Drill	To evaluate and validate a single operation or function	Demonstrate and validate activities involved in a specific task or function
	Functional	To evaluate and validate multiple functions at a single site	Apply plans, procedures, and training in responding to a specific mock emergency/disaster
	Full-scale	To evaluate and validate multiple functions at multiple sites	Apply plans, procedures, and training in responding to a large-scale mock emergency/disaster

Public/stakeholder education

Goal

Public/stakeholder awareness and education efforts aim to empower the members of a community or organization to understand risks and hazards, prepare themselves for an emergency/disaster, participate meaningfully in emergency management initiatives, and develop the skills they need to mitigate their personal risk.

Methods

Empowerment is achieved by enhancing public/stakeholder awareness and understanding of the hazards and risks they face and the importance of being personally prepared for emergencies/disasters, and by providing them with the knowledge required for informed decisions and safe behaviour.

Here are some examples of public/stakeholder awareness and education programs/services:

- Information campaigns geared to the public, which are conducted through:
  - Television and other broadcast media
  - Internet and social media
  - Publications, such as brochures and posters
  - Information booths
  - Web-based information campaigns
- Education programs targeted to specific audiences, such as neighbourhoods, schoolchildren, First Nations, seniors, persons with disabilities, business owners and employees, and animal owners
- Specialized awareness and education campaigns, such as:
  - Fire Smart
  - Call Before You Dig
  - Emergency Preparedness Week (first week of May)
  - ShakeOut BC Earthquake Drill (third Thursday of October)
  - Tsunami Awareness Week (last week of March)
  - PreparedBC: In It Together
- Venues for public/stakeholder discussion, such as surveys, interviews, workshops, and public forums
- Exercises that engage the community or organization at large (e.g., drills)

Emergency programs could also consider linking with other programs, such as water conservation, environmental awareness and education, and climate adaptation programs.

Maintenance and continuous improvement

Goal

Emergency plans – and the emergency management program itself – are reviewed, evaluated, and revised as necessary to increase readiness for future incidents. The goal of evaluation and revision is to keep the program and plans updated, workable, and relevant to changing needs and conditions.

Methods

Lessons learned from training and exercises are valuable input to maintenance and continuous improvement, but feedback may also be sought from stakeholders through surveys or interviews. The areas of concern covered by these review mechanisms include:

- Are there any gaps in any of the program areas (e.g., training, public/ stakeholder education, resourcing)?
- Does the emergency plan work? Does it meet the needs of the jurisdiction or organization?
- Are the roles and responsibilities of those tasked with implementing parts of the plan clearly defined?
- Are there any planning weaknesses or gaps?
- Are there any resource gaps?
- Are there any gaps in execution?
- Does the plan allow for interoperability and coordination of response and communication efforts?

In addition to these mechanisms for review and evaluation, emergency management programs can keep their plans updated by:

- Reviewing and confirming contact information every six months with all agencies, departments, working groups, and any other internal or external stakeholders named in the plan
- Contacting responsible groups annually (or every six months when checking contact information) to determine if there have been any changes or updates to supporting plans or documents
- Providing a mechanism for plan participants to submit requests for amendments to the plan
- Using a tracking form to keep a record of changes to the plan
- Ensuring that copies of the amendments are distributed to all plan holders and include clear instructions on which pages of the plan should be replaced

Using the After Action process

At the conclusion of any project, it is prudent to capture lessons learned by reflecting on how well the initiative was planned and implemented. An After Action Review (AAR) is a professional discussion of an event that focuses on performance standards and enables those involved in the event to review what happened and why, and discuss how to maintain identified strengths and address identified weaknesses.[4] An AAR captures learning and applies it as quickly as possible back into action. The results of the review process are documented in an After Action Report that is shared with all involved.

AARs can be conducted formally or informally and can involve various activities that are referred to as "debriefings," "lessons learned," or a "learning review." Regardless of the terminology used, all approaches follow a similar format and address the following questions:

- What worked well?
- What could have gone better?
- What can be done differently next time?

An effective After Action Review:

- Focuses on a small number of key issues
- Is conducted in a non-judgemental, safe environment
- Uses an inclusive process
- Builds a shared understanding
- Is carried out as close to an action as possible
- Allows learning to feed directly back into action
- Uses a structured and facilitated process

[4] This information was adapted from: Keyes, Jessica, *Enterprise 2.0: Social Networking Tools to Transform Your Organization,* CRC Press, 2012.

7 – Response

What is response?

Definition

The term "response" refers to actions taken in direct response to an imminent or occurring emergency/disaster in order to manage its consequences. This phase of emergency management involves measures to limit loss of life, minimize suffering, and reduce personal injury and property damage. It also includes the initiation of plans and actions to support recovery.

BCEMS allows for the integration of response structures and practices into a unified incident management system that is applicable to all levels of government, business and industry, and not-for-profit organizations.

Key concepts

- **Common response management model**
  BCEMS provides emergency management stakeholders with a common response management model based on ICS. This flexible, standardized system, a common approach, and shared understanding of functions and procedures enable stakeholders to work together more effectively. In addition, the model is applicable to any incident, regardless of the scope, scale, or complexity.
- **Multi-agency coordination and integration**
  As mentioned previously, emergency management entails the engagement and participation of a wide range of stakeholders. (See the list that begins on page 26.) Coordination among them allows for effective response during an emergency/disaster. Coordination protocols, close working relationships, and open lines of communication among response organizations facilitate integrated response. Those who lead response efforts seek to align the capabilities of various stakeholders to reduce the risk of any group being overwhelmed by the crisis. Under a coordinated system, most groups and agencies are able to perform one or more of the following roles:
  - Coordinating and integrating action: Setting priorities for their respective operations and resources, and developing strategies for resolving challenges that arise in a multi-agency response situation

- Sharing information: Providing observations on the disaster and its effects on the community/organization, and facilitating communication
- Exchanging resources: Offering resources for the use of others under formal or informal arrangements

Response goals

There are eight BCEMS response goals, which guide decision makers in prioritizing response activities. Although the goals are listed in order of priority, personnel take all available information into account when determining incident-specific priorities.

RESPONSE GOALS		
1	ENSURE THE HEALTH AND SAFETY OF RESPONDERS	The well-being of responders must be effectively addressed or they may be unable to respond to the needs of those at risk.
2	SAVE LIVES	The importance of human life is paramount over all other considerations. When lives are at risk, all reasonable efforts must be made to eliminate the risk.
3	REDUCE SUFFERING	Physical and psychological injury can cause significant short- and long-term impact on individuals, families, and communities. Response measures should take into consideration all reasonable measures to reduce or eliminate human suffering.
4	PROTECT PUBLIC HEALTH	Public health measures essential to the well-being of communities should be maintained or implemented. Enhancing surveillance and detection, eliminating health hazards, minimizing exposure, and implementing programs such as widespread immunization may need to be considered.
5	PROTECT INFRASTRUCTURE	When necessary to sustain response efforts, maintain basic human needs, and support effective recovery, infrastructure that is critical to the livelihood of the community should be protected ahead of other property.
6	PROTECT PROPERTY	Property can be essential to the livelihood of communities. When determining priorities, response personnel should evaluate the importance of protecting private and community property.

7	**PROTECT THE ENVIRONMENT**	The environment is essential to communities. When determining priorities, response personnel should evaluate the importance of protecting the environment and implement protective strategies that are in the best interest of the broader community.
8	**REDUCE ECONOMIC AND SOCIAL LOSSES**	The loss of economic generators can have short- and long-term impact on communities, including social losses related to the loss of community support networks and reduced employment, investment, and development. Response measures may be necessary to reduce these losses, and psychosocial interventions may be required for those impacted by the disaster.

These goals can be interpreted in different ways based on the operational requirements of each incident. For example, it may be determined that the best way to reduce suffering is to protect housing (essential infrastructure) as no other shelter is available. Such a course of action may require the activation of an EOC or other site support activities, and the deployment of the appropriate resources.

Response levels and structure

Levels

Under BCEMS, there are four response levels, which are activated as necessary:

RESPONSE LEVEL	PRIMARY ROLE	SPECIFIC TASKS
Site	Uses resources to solve problems arising from the emergency/disaster • Responders at the site may come from various levels of government and from other stakeholders. • Direction comes either from a single command or a unified command.[5] • Command is provided from a single on-site incident command post.	• Manages the tactical response to the emergency/disaster • Takes responsibility for the safety and health of all those who are operating at the site • Evaluates risk on an ongoing basis • Determines the resources required to deal with the emergency/disaster
Site support	Supports and coordinates the overall emergency response activities within its geographical or functional jurisdiction. This level of support can be provided by one of the following: • Department Operations Centre (DOC): Agencies that require unique functional support for their emergency activities may establish a DOC. A DOC is primarily concerned with supporting the emergency activities of the agency and ensuring that regular business activities continue. It can be established at the provincial, regional, or local level. For example, a local authority fire department may establish a DOC to respond to a specific emergency/disaster. Business and industry may also activate functional or geographic operations centres (e.g., Area Operation or Area Command Centre).	• Maintains communication with the site level • Provides policy guidance • Coordinates the collection of situational awareness information and disseminates this information internally as well as with external stakeholders • Provides operational support (e.g., for evacuations) • Coordinates the local multi-agency support to the site level • Acquires and deploys additional resources obtained locally, from other EOCs, or from the provincial regional coordination level • Prioritizes and coordinates critical resources • Assists with the media

[5] "Single command" refers to one person overseeing the response and serving as the final decision-making authority. "Unified command" refers to two or more individuals sharing authority over an emergency/disaster in which multiple agencies or jurisdictions are involved.

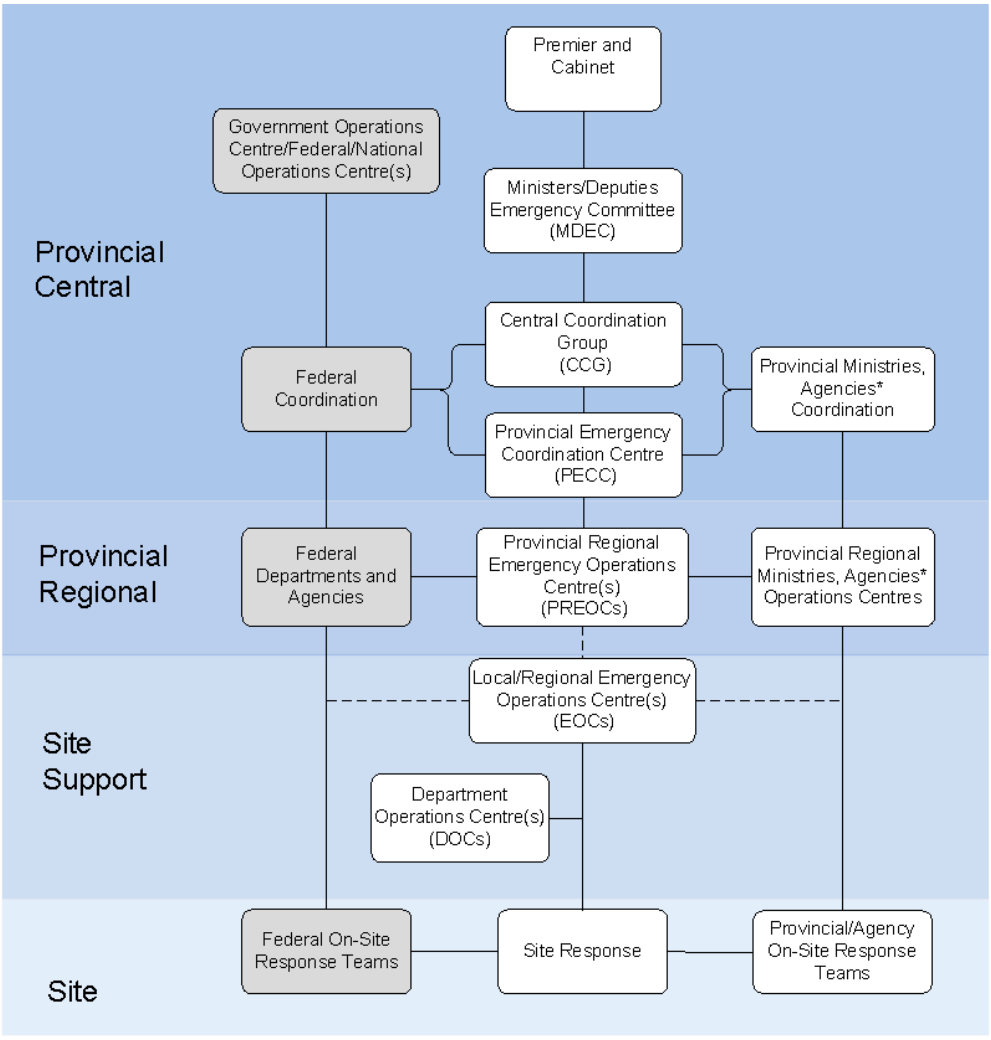
RESPONSE LEVEL	PRIMARY ROLE	SPECIFIC TASKS
Site support (continued)	• Emergency Operations Centre (EOC): An EOC is set up off-site, ideally in a pre-designated facility, and is normally activated at the request of the incident commander or senior official. EOCs may be established by any level of government or the private sector to support the entire site or an individual agency. • Regional Emergency Operations Centre (REOC): Local authorities or agencies may combine resources in an REOC. An REOC has the same function as an EOC, but allows for collaborative decision making, coordinated resource requests, and prioritization of scarce resources between local authorities during regional emergencies/disasters. An REOC can also coordinate public messaging.	• As listed above
Provincial regional coordination	Provides and coordinates provincial support for local authorities and First Nations within designated regional boundaries. Support and coordination at this level are provided by a Provincial Regional Emergency Operations Centre. (PREOC).	• Acts as a conduit of information back to the provincial government • Assists in implementing emergency plans across local authorities and other levels of government, Crown corporations, and stakeholders • Coordinates the collection of situational awareness information (e.g., priority issues of concern, damage assessment) and disseminates this information to the provincial central coordination level, provincial ministries, local authorities, and stakeholders • When an emergency/disaster affects multiple jurisdictions, obtains critical resources and prioritizes their coordinated deployment in accordance with BCEMS response goals • Where no local authority exists, directly manages the response • Coordinates regional dissemination of provincial messaging on the status of the emergency/disaster

RESPONSE LEVEL	PRIMARY ROLE	SPECIFIC TASKS
Provincial central coordination	Prioritizes provincial government objectives and leads the overall provincial response. It also serves as the coordination and communication link with the other response levels and the federal disaster support system. Central coordination and provincial leadership are provided by the Provincial Emergency Coordination Centre (PECC).	• Provides overall leadership and coordination in the implementation of the provincial government's priorities and objectives in a major emergency/ disaster: o Gathers situational awareness data to establish the scope and scale (current and potential) of major emergencies/ disasters, and provides it to the government and other stakeholders o Facilitates advance planning, addressing the need for resources and support based on situational awareness information • Supports the provincial government's response activities, providing policy direction for regional emergency operations • Coordinates and supports any activated PREOC • Coordinates cross-government support to provincial ministries and emergency management stakeholders • Ensures adequate province-wide mobilization and allocation of critical assets • Coordinates the government's business continuity requirements for critical government functions and provides continuity support to senior provincial officials as requested • Facilitates, as required, the acquisition of provincial, national, and international support • Coordinates overall provincial messaging on the status of the emergency/disaster

Provincial emergency management structure

The following diagram shows how the four BCEMS response levels align with the provincial government's emergency management organizational structure.

BC GOVERNMENT EMERGENCY MANAGEMENT STRUCTURE



Additional coordinating elements for catastrophic events

In certain circumstances, enhanced coordination, integration, and flexibility may be required among all levels of government, critical infrastructure owners/ operators, and other stakeholders to help ensure:

- Joint decision making
- Enhanced information sharing and decision making
- Prioritization and synchronization of resources
- Unity of effort
- Development of innovative solutions to challenges that arise during the emergency/disaster

The provincial government has designed two additional coordinating elements – the Provincial Coordination Team (PCT) and the Provincial Earthquake Response and Recovery Centre (PERRC) – to achieve these objectives.

Provincial Coordination Team

The PCT is a cross-government, multifunctional provincial team of experienced emergency managers and technical specialists who will be available on short notice to provide enhanced coordination support. The PCT is activated by the Assistant Deputy Minister, EMBC, and may be deployed to assist in a major emergency/disaster. It is designed to accomplish the following tasks:

- Developing on-the-ground situational understanding and analysis to supplement the situational awareness work done by site and site support personnel
- Reinforcing staff capacity and expertise in PREOCs and the PECC
- Enhancing coordination and integration with local authorities and other stakeholders (e.g., the PCT may be deployed to a local authority or stakeholder EOC and act as a conduit of information to and from the PREOC)
- Where required, determining an appropriate location for and establishing the PERRC

Provincial Earthquake Response and Recovery Centre

When the scope and complexity of an earthquake and the scale of response require extensive cross-agency coordination and integration for an extended period of time, the province may establish a PERRC. (Until the PERRC is established and transition of response coordination is possible, the PECC coordinates the provincial response.)

The PERRC is an integrated centre that could include a PREOC, PECC, and other emergency operations centres all under one roof. Its key features are as follows:

- The PERRC is not a pre-existing facility, but one whose activation is decided upon by EMBC during the immediate response phase.
- It is located in a facility that can accommodate several hundred people.
- It is set up in a location that is close to the impact area, allows for the efficient gathering and analysis of situation information, and provides for the integration of the activities of all levels of government and stakeholders.
- It is activated during what is expected to be a sustained and potentially lengthy response period.

A PERRC is responsible for:

- Providing overall provincial coordination in place of the PECC and possibly a PREOC
- Providing direct, integrated, coordinated support to local authorities and regional districts
- Coordinating large-scale media relations, public information, and strategic communications at the provincial and national levels to ensure consistent, coordinated public messaging
- Setting up the conditions for recovery with the integration of a Recovery Task Force that is located within the centre, thus making it possible for recovery work to get underway even as the response activities are being coordinated

When preparing their emergency management plans, local authorities, First Nations, and stakeholder agencies should consider how they would address the requirements for staff support and information sharing that would arise if a PERRC is activated.

Mass care

In BC the provision of Emergency Social Services (ESS) immediately after an emergency consists primarily of local ESS volunteers assisting those affected. In a catastrophic emergency such as an earthquake, where significant numbers of people have been affected and require support, ESS service delivery may not be able to manage the scope and volume of needs.

Building upon ESS principles, a new approach is in place to provide a heightened level of care and basic needs to a mass population affected by a catastrophic disaster. This approach includes a variety of mass shelter options, mass feeding, and bulk distribution of essential supplies. In the field of emergency management both nationally and internationally, this level of support is commonly referred to as “mass care.” As part of the mass care planning process, all levels of government, local ESS volunteers, volunteer organizations, non-

governmental organizations, and others are collaborating to develop integrated plans and logistics for a coordinated response.

Response roles of other stakeholders

Not-for-profit organizations and the private sector also play key roles in emergency response.

Not-for-profit organizations

BC hosts a variety of unique not-for-profit organizations that offer a variety of services during emergencies/disasters. For example, the Canadian Red Cross, The Salvation Army, and the Canadian Disaster Animal Response Team (CDART) are able to involve various governance levels during a response and recovery operation, which can include local, regional, provincial, national, and international resources.

The provincial partnership with not-for-profit organizations is coordinated through the Integrated Disaster Council of British Columbia (IDCBC). During emergencies/disasters, these organizations (including international groups) interface with the provincial emergency management system primarily through the operations branch of the PREOC.

Private sector

Private sector owners are encouraged to maintain business continuity plans and emergency management/response plans. Private companies that manage resources (such as oil and gas) which face disaster-related risks and those with essential applications (such as energy/power) are required by legislation to maintain contingency plans. Private sector owners of critical resources that may be impacted by an emergency/disaster often designate agency representatives to the EOC or PREOC. These representatives act as liaisons, sharing information on threatened or disrupted services (e.g., electrical power, transportation, telephone, and gas) and infrastructure. This partnership facilitates the coordination and prioritization of critical service restoration.

In addition, during emergencies/disasters, business organizations often contribute to response and recovery through donations and resource support.

Response management model

The BCEMS response management model for site and site support is based on ICS. Hence, response operations are guided by the following basic ICS concepts:

- Primary management functions
- Personnel accountability
- Modular organization
- Establishment and transfer of command
- Single command or unified command
- Unity and chain of command
- Management by objectives
- Action planning
- Manageable span of control
- Common terminology
- Communication and information management
- Comprehensive resource management

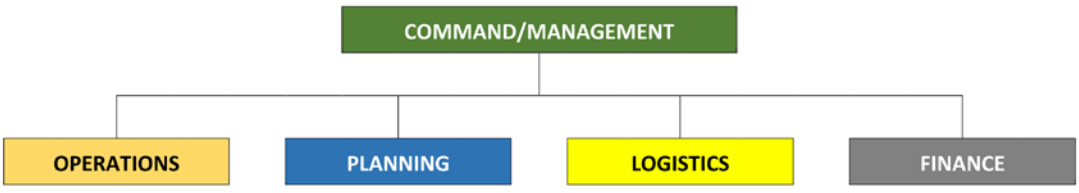
Primary management functions

Whether at the site level or the site support level, the response structure is built around five primary management functions. These are:

- Command (site level)/management (site support level)
- Operations
- Planning
- Logistics
- Finance

Each function is assigned a standard colour for quick identification. These colours and the relationships between these functions are illustrated below.

PRIMARY MANAGEMENT FUNCTIONS



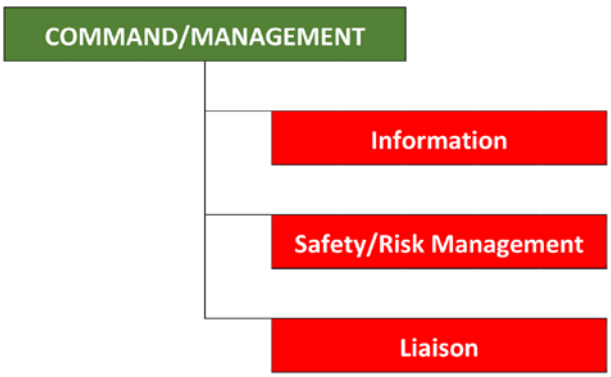
Command/management

The command function consists of an incident commander and the command staff operating at the site level, while the management function consists of a director and the management staff operating at the site support level. At the site level, the leadership element is referred to as "command." For site support, it is referred to as "management," which conveys a leadership role that is focused on support, coordination, and strategic direction. The incident commander at the site and the director at the site support level are responsible for the following:

INCIDENT COMMANDER	DIRECTOR
• Assuming overall responsibility for site level management of the incident • Determining incident objectives and strategies • Establishing an appropriate response structure/organization • Coordinating response activities with assisting agencies/organizations • Overseeing command staff functions (information, safety, and liaison)	• Exercising overall management responsibility for activation, coordination, and demobilization of site support activities • Ensuring that sufficient support, policy advice, and resources are made available • Ensuring that appropriate staffing levels are established and maintained • Directing appropriate emergency public/stakeholder information, risk management, and liaison actions

Both the incident commander and the director oversee the following command/ management staff functions: information, safety/risk management, and liaison. As shown below, these staff functions are assigned the colour red for easy identification. These functions can be staffed with multiple officers depending on the scope of the emergency/disaster.

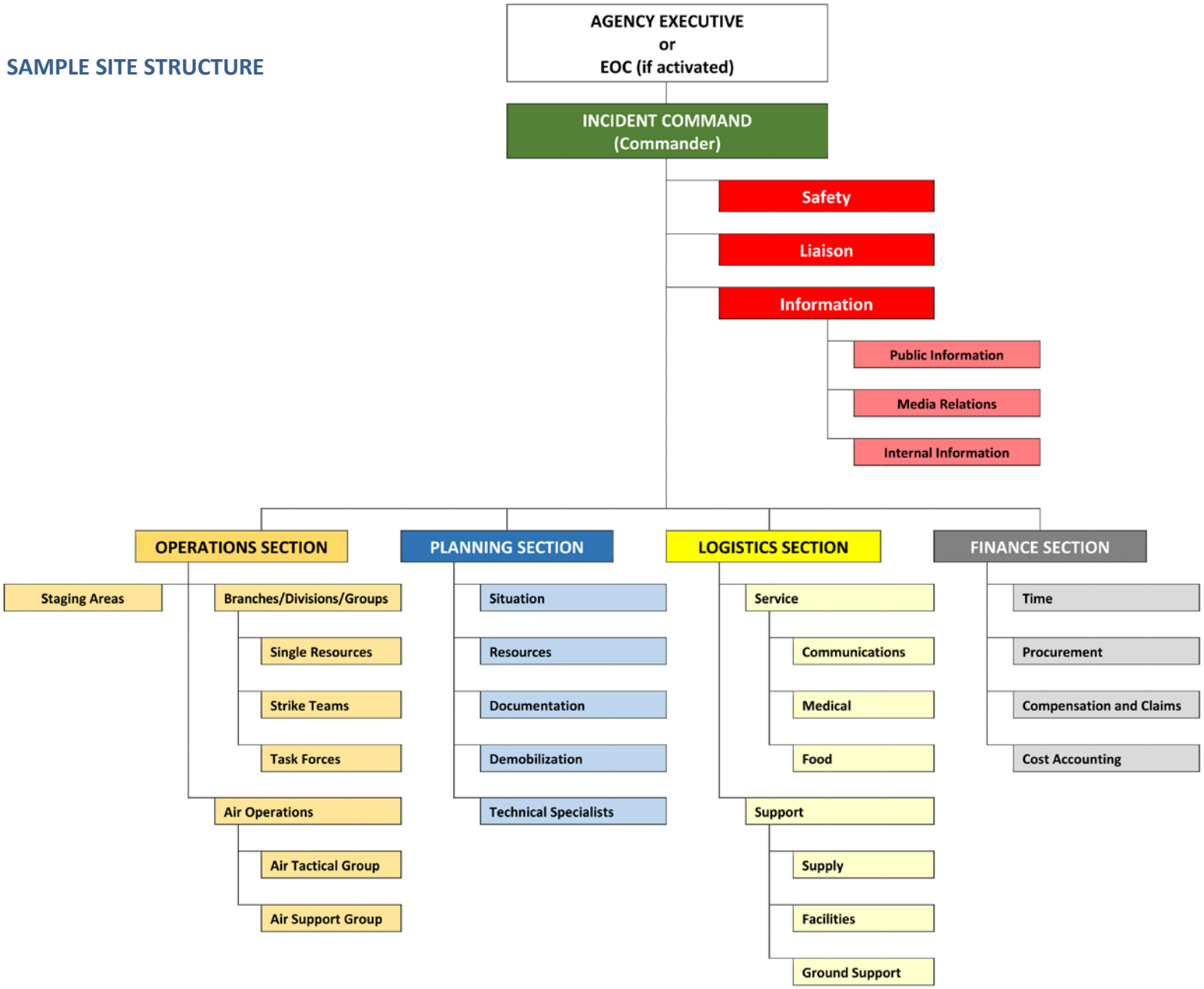
COMMAND/MANAGEMENT FUNCTIONS



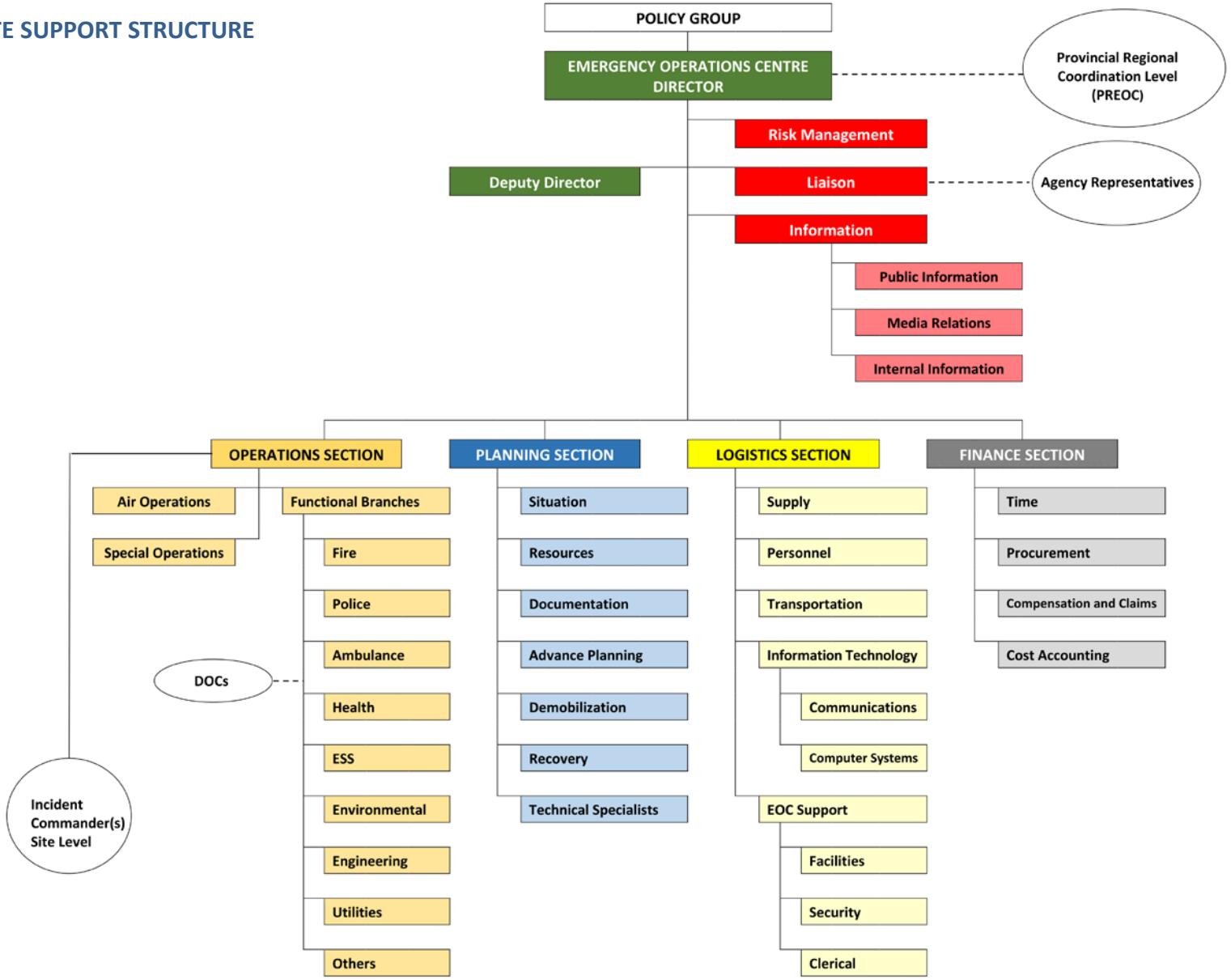
The following pages contain sample organizational charts for both the site (ICS) and site support (EOC) levels.

In these structures, only those ICS/EOC functions and positions that are required to meet current response objectives need to be activated. Non-activated functions and positions are the responsibility of the next higher level in the ICS/EOC organization, and ICS/EOC staff may be required to take on more than one position or role. Each function must have a person in charge.

SAMPLE SITE STRUCTURE



SAMPLE SITE SUPPORT STRUCTURE



Each function has its duties and responsibilities:

STAFF FUNCTION	DUTIES AND RESPONSIBILITIES (SITE LEVEL)	DUTIES AND RESPONSIBILITIES (SITE SUPPORT LEVEL)
Information	• Ensure that information provided is complete, accurate, and consistent • Ensure that the organization has the capacity to receive and address public/stakeholder inquiries • Provide information to the public/stakeholders; manage public/stakeholder relations • Provide information to the media and manage media inquiries and requests	• Ensure that internal information is complete, accurate, and consistent • Serve as the coordination point for all public/stakeholder information, media relations, and internal information sources • Ensure that information provided to the public within the affected area is complete, accurate, and consistent
Safety/Risk management	Safety • Develop and recommend measures for ensuring personnel safety • Assess and/or anticipate hazardous and unsafe situations • Exercise emergency authority to stop and prevent unsafe acts • Develop worker care programs	Risk management • Ensure the implementation of safety measures and worker care practices • Ensure that risk management practices are applied through-out the EOC • Monitor situations for risk exposures and ascertain the probability and consequences of future events • Exercise authority to halt or modify any unsafe operations within or outside the scope of the EOC
Liaison	• Assist in establishing and coordinating inter-agency contacts • Maintain a point of contact for agency representatives from cooperating agencies • Monitor incident operations to identify current or potential inter-agency problems	• Maintain a point of contact for and interact with agency representatives • Liaise with other EOCs and agencies/departments not represented in the EOC • Provide information and guidance related to external agencies and organizations • Liaise and share information with local authorities, other EOCs, and provincial and federal organizations

NOTE

Regardless of the nature of the emergency/disaster, worker care is an essential component of any response. Embedded in the concept of worker care is the assumption that no one who sees a disaster is untouched by it regardless of role or function. Stress, trauma, and loss are experienced at both the individual and collective levels. Organizations have a role in ensuring a safe, supportive, and well-managed working environment, while workers should monitor their own stress levels and that of their colleagues. In an EOC, the responsibility for ensuring implementation of worker care practices lies with the safety/risk management function.

Other primary management functions

Reporting to the command/management function are four other functions as described below.

MANAGEMENT FUNCTION	DUTIES AND RESPONSIBILITIES
Operations	• Ensure the safety of operational personnel • Establish the organizational structure within the operations function • Actively contribute to the development of operational objectives and strategies • Identify, direct, and coordinate tactical operations (site level); support, coordinate, and assist with tactical operations (site support level) • Request (or release) resources as appropriate
Planning	• Collect, evaluate, and display information about the incident • Foster the development of common situational awareness • Develop action plans as directed • Conduct long-range planning and develop plans for incident demobilization • Prepare situation reports • Ensure organization of documentation and data storage

MANAGEMENT FUNCTION	DUTIES AND RESPONSIBILITIES
Logistics	• Obtain, maintain, and track acquired personnel, facilities, equipment, and supplies • Coordinate closely with the operations function to obtain necessary resources and establish priorities for allocation • Ensure that critical resources are allocated according to approved plans • Provide communications resources and support • Provide resources, including food, lodging, transport service, etc.
Finance	• Track, analyze, and report on financial projections and actual costs • Negotiate and monitor contracts and vendor agreements • Provide and maintain documentation related to reimbursement from third parties • Continuously monitor the effectiveness of the function and modify as required

Personnel accountability

Response activities at all levels are conducted in a manner that ensures safety, efficiency, and accountability:

- The incident commander organizes the incident, bringing personnel together in a formal and systematic manner.
- Personnel are deployed within a span of control that allows supervisors to oversee effectively their location and use. (More information on span of control is found on page 71.)
- Response personnel abide by WorkSafeBC regulations, best safety practices, and applicable safety standards.

Modular organization

The ICS organizational structure is flexible and modular. It can expand and contract based on need (e.g., the scope of the incident, availability of personnel and other resources, the number and complexity of hazards). As incident complexity increases, the organization expands. The number of management and supervisory positions may also increase.

This modular design allows the response structure to grow from a small routine operation into a large organization capable of addressing complex needs arising

from major emergencies/disasters that involve multiple communities or jurisdictions and agencies.

Establishment and transfer of command

The command element in the response operation is established right from the start. The first trained responder or most qualified person who arrives at the scene takes on the role of incident commander. The identity of the incident commander is communicated to all response agencies.

The incident commander manages all tactical resources and oversees operations. He or she remains in command until the incident is stabilized and response efforts are terminated, or he or she is formally relieved and a transfer of command is accomplished. When command is transferred, a briefing is conducted that captures all the information required for continuing safe and effective operations.

Single command or unified command

"Single command" refers to one person overseeing the response and serving as the final decision-making authority. This form of command can be used when an emergency/disaster involves only one jurisdiction and there is no functional or jurisdictional overlap with another agency. The single commander is designated by the appropriate authority. In some cases, multiple agencies responding to the emergency/disaster may agree to designate a sole incident commander.

"Unified command" refers to two or more individuals sharing authority over an emergency/disaster in which multiple agencies or jurisdictions are involved. It is a collaborative management method that can be used during an emergency response in which jurisdictional authority overlaps due to legal, geographical, or other factors, thus making single command impractical. In a unified command, several agencies with jurisdictional responsibility for the emergency/disaster can support each other in managing the incident by preparing a common action plan. Each participating agency does, however, maintain its own authority, responsibility, and accountability.

Unity and chain of command

To eliminate the confusion created by multiple and conflicting directives, all personnel must understand and abide by the established lines of authority and reporting. With ICS, this is ensured through unity and chain of command. Each person involved in the response operation reports to only one supervisor, and

there is a clear hierarchy from the highest level of authority down to each subordinate level. Such a structure improves the flow of information and directions, helps prevent responders from taking action entirely on their own, enhances safety, promotes accountability, and allows for effective coordination of efforts.

Management by objectives

Management by objectives is a systematic and organized approach that focuses on achieving goals, setting objectives, developing action plans, and monitoring performance to obtain the best possible results from the available resources. This approach helps ensure that personnel clearly understand the goals and objectives of the response organization and are aware of their own roles and responsibilities. Successful incident management requires the establishment of measureable objectives regardless of the size or complexity of the incident.

Action planning

Action planning is a means of capturing and communicating the overall incident response priorities in a concise and coherent way. An action plan may be oral or written. It consists of incident objectives for a specific period of time (referred to as an "operational period") and may include supporting documents such as maps, organizational assignments, safety and weather information, a medical plan, a communications plan, and/or a demobilization plan. The action planning process is guided by the BCEMS response goals. (See page 53.)

Manageable span of control

The term "span of control" is defined as the number of resources or organizational elements that one supervisor manages. It is usually expressed as a ratio of supervisor to subordinates. Maintaining an effective span of control is critical to help ensure safety and accountability. ICS indicates that the optimum manageable span of control falls within a ratio of 1:3 to 1:7 (one supervisor for every three to seven subordinates). When span of control is determined, the following are taken into account: type of incident, nature of the tasks to be performed, hazards, and safety factors.

Common terminology

Common terminology is essential in any emergency response system, especially when multiple agencies are involved. When terms have more than one meaning and usage varies from one agency to another, confusion and inefficiency can result. Under the ICS model, all major organizational functions, facilities, and resources are pre-designated and are referred to by a specific term in order to prevent confusion and misunderstanding.

Communication and information management

The term "communication and information management" refers to an organized, integrated, and coordinated mechanism to ensure the accurate, consistent, and timely delivery of information to site level responders, assisting and cooperating agencies, site support personnel, and the public/stakeholders.

This mechanism consists of the equipment, systems, and protocols for transferring information internally and externally as well as across jurisdictions. A common communications plan, standard operating procedures, clear text, common frequencies, and common terminology all form an effective communication and information management system. (Communication and information management is described in detail on page 77.)

Comprehensive resource management

As mentioned previously, the term "resources" refers to equipment, supplies, personnel, volunteers, and facilities that are available for assignment or staging in support of emergency management activities. Comprehensive resource management includes consistent processes for categorizing, ordering, dispatching, tracking, recovering, and demobilizing resources. (Resource management is described in detail on page 82.)

Response activities

The dynamic environment of emergencies/disasters makes it imperative that organizations respond in a coordinated and organized manner when implementing the following response activities:

- Incident/event notification
- Activation
- Development of situational awareness
- Decision making
- Acquisition and deployment of resources
- Demobilization

Incident/event notification

The occurrence of an incident triggers the response decision-making process. For sudden-onset events, the detection and reporting of the initial incident can trigger event verification and the collection and analysis of situational information. For slow-onset events, the trigger may not always be obvious. In such cases, triggers that initiate activation may include the following:

- New information becoming available
- Scale of the emergency/disaster escalating in terms of urgency or complexity
- Political, social, or economic changes taking place

Activation

The term "activation" refers to the act of initiating the emergency plan and different levels of support. Organizations identify activation triggers and establish practices and procedures for notifying response personnel for both sudden onset and slow-onset events.

Activating and executing emergency plans and procedures may involve one or more of the following:

- Monitoring and observation of the situation (e.g., by technical specialists)
- Deployment of site level resources (e.g., fire, ambulance, police, or agency operations personnel responding to the scene of an accident or incident)
- Deployment of site support elements (e.g., activation of a DOC, EOC, or other levels of support, such as a PREOC or PECC)

Emergency plans identify specific triggers for the implementation of particular actions and procedures. For example, the triggers for activating an EOC may include the following:

- Significant number of people at risk
- Magnitude of the threat to people, property, or the environment
- Site support required (lengthy activation, limited resources, etc.)
- Resource coordination required due to limited local resources and/or the size and scope of the emergency/disaster
- Heightened media or public/stakeholder concern

Emergency plans also identify activation levels for various types of response measures. These levels help personnel determine the types of response actions that may be required and communicate this information to other organizations. For example, EOCs have three levels of activation ranging from Level 1 (small scale) to Level 3 (full scale). How these levels are defined will depend on the organization to which they apply.

Development of situational awareness

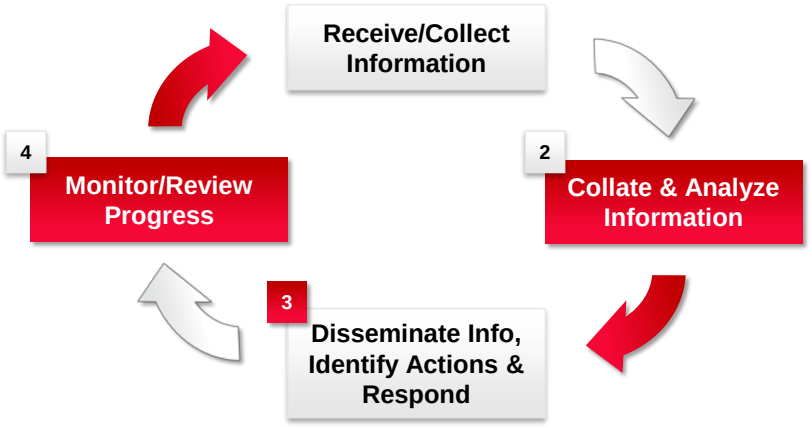
Situational awareness means knowing what is going on and what has happened with respect to the current incident, what could go on in terms of future impact or outcomes, and what options exist in terms of response actions. This knowledge relates to "one's present environment," which is the emergency/ disaster being responded to. Through situational awareness, a response organization aims to become fully informed so that effective decisions can be made to support response efforts and ensure the best possible outcome.

Group or shared situational awareness starts with individual awareness and knowledge. That knowledge is shared to foster a common understanding among group members, which will ultimately lead to improved decision making and actions.

During an emergency response, agencies, government, and critical infrastructure owners/operators conduct information-collection activities and provide time-sensitive information and consolidated situation reports to one another to help ensure that all concerned are kept apprised of developments. Situational information can come from various sources, such as other agencies, other centres, technical experts, the media, and the public.

Situational awareness requires continuous monitoring and analysis of relevant information about actual and developing situations. The process to manage this information is depicted below.

INFORMATION MANAGEMENT PROCESS



In the analysis and assessment of collected information, the following questions are considered:

- Is the information relevant to operations?
- Is the source of the information credible?
- Has the information been verified?
- Is the information critical?
- Is the information critical for future planning?
- With whom should this information be shared?

Decision making

Situational information is validated, assessed for potential impact and consequences, and analyzed to identify options for addressing issues and concerns. Once this process is completed, a decision is made as to the appropriate option to be pursued. During the decision-making process, the response goals (see page 53) are taken into account.

Decisions are documented, communicated to all who must be notified, implemented, and then evaluated to ensure that the actions taken have addressed the identified issues and concerns.

Acquisition and deployment of resources

A response organization must be able to identify, acquire, and deploy suitable resources to address emergency needs. To do so, the organization needs a clear and realistic picture of its current capabilities and an awareness of the capabilities of other stakeholders. In major emergencies/disasters, it is not

uncommon for organizations to receive support from other stakeholders. When feasible, mutual aid agreements or other similar arrangements may be worked out in advance and noted in emergency plans. (More information on resource management is provided on page 82.)

Demobilization

Demobilization is the orderly, safe, and efficient return of an incident resource to its original location and status. This includes personnel, volunteers, facilities, equipment, supplies, and other resources. The process can begin at any point of the emergency/disaster, but to facilitate accountability, it should begin as soon as the identified resource is no longer required.

The components of demobilization include:

- Reduction of staffing levels as the required services are reduced
- Compilation and storage of documentation for easy retrieval, should this be necessary after the emergency/disaster
- Closing of facilities
- Return/restocking of equipment and supplies
- Conduct of exit interviews to capture lessons learned and identify strengths and areas of improvement

The demobilization process is coordinated between the site and EOC, PREOC, and/or PECC so that resources may be reassigned, if necessary, and critical resource needs may be prioritized for demobilization.

Communication and information management

Definition

As mentioned previously, the term "communication and information management" refers to an organized, integrated, and coordinated mechanism to ensure the accurate, consistent, and timely delivery of information to site level responders, assisting and cooperating agencies, site support personnel, and the public/stakeholders.

Goals

With regard to response operations, the goals of communication and information management are to:

- Standardize key information so that it can be accessed easily within and across organizations
- Establish a process that promotes the regular sharing of information with other response organizations
- Link the operational and support elements within and across various organizations
- Provide a common operating picture and situational awareness for response personnel and organizations
- Maximize the use of readily available resources, including the Internet and web-based tools
- Ensure the secure management and timely release of sensitive information
- Ensure the release of credible and accurate information to the public and other stakeholders

Characteristics of an effective mechanism

To ensure the effective and timely delivery of information to all who require it, the communication and information management mechanism that is set in place should possess the following characteristics:

- Policy and planning
- Customized communication methods
- Consistency in information recording methods
- Interoperability
- Redundancy
- Common terminology, plain language

- Information security
- Coordination in the release of information
- Effective use of the media

Policy and planning

Clear communication policies and procedures form the basis for effective communication and information management. Through careful planning, the organization can determine the following:

- What communications systems and platforms will be used
- Who can use them
- What information is essential in different situations
- Technical parameters of all equipment and systems
- Relevant protocols, including how and when information will be released

Customized communication methods

During a response, the following types of communication occur:

- **Strategic**
  Communication between support elements and other bodies involved in high-level strategic decision making
- **Tactical**
  Communication between field personnel and other tactical resources providing direct assistance
- **Support**
  Communication among logistical elements and cooperating agencies not directly deploying tactical assets
- **Public**
  Communication to and from the public or specific stakeholder groups

A particular method (or methods) may be most effective for a specific type of communication. Identifying the appropriate method is key.

Consistency in information recording methods

Consistency in information recording methods can help promote effective communication and information management. Information should be recorded, tracked, and shared in similar ways; for example, through the use of standard forms with consistent fields and generally recognized measures.

Interoperability

Effective and predictable communication is paramount during an emergency/ disaster. Efforts must be made to ensure that all who are required and authorized to communicate have the tools and training they need to complete their tasks.

The term "interoperability" has been used to refer to a desired characteristic of emergency communications. (However, it has been and continues to be defined differently within various spheres.) Interoperability may be defined as the ability of emergency personnel to communicate between jurisdictions, disciplines, and levels of government, using a variety of systems as needed and authorized. In the context of this definition, distinctions can be made between technical interoperability and functional interoperability.

- Technical interoperability exists when two or more communications devices can send and receive information to and from each other.
- Functional interoperability exists when users have the leadership and support, standard operating procedures, technology, training, and regular usage to enable predictable and consistent communication.

The process for achieving interoperability involves the following tasks:

- Identifying what information is needed and why
- Identifying the party from whom that information should be received
- Clarifying the triggers for and mechanics of exchanging information

Training and exercises on the exchange of information between agencies and between levels of response as well as on the communications systems and their interoperability are an important best practice that every emergency program should incorporate.

Redundancy

A communication and information management system must be resilient: it must be able to continue functioning even after a major impact, significant damage, or loss of infrastructure. This can be achieved in the following ways:

- **By building redundancy into the information system**
  Alternative communication methods must be available in case the primary or routine methods are not operating. Alternative methods include the use of paper-based forms, courier services, and alternative technologies, such as amateur radio and satellite phones.

- **By ensuring that multiple information sources are used**
  For example, communication between the incident commander and EOC should be supported by alternate information sources, such as dispatch centres, command frequencies, supporting or assisting agencies, and even mainstream and social media.

Common terminology, plain language

Common terminology and plain language enable response personnel to communicate clearly and effectively. Using plain language or clear text (rather than agency-specific codes or acronyms) facilitates coordination and interoperability across organizations, jurisdictions, and disciplines. Policies and procedures related to the use of common terminology and plain language are needed.

Information security

Information security protocols are critical because inadequate security can result in the untimely, inappropriate, or ineffective release of information. This in turn increases the likelihood of misunderstanding and can complicate already complex public safety situations.

Policies and procedures must be established to define the levels of access to sensitive information. Response personnel must also be aware of the requirements under freedom of information and protection of privacy legislation. They must be aware that freedom of information applications may be made after the emergency/disaster has passed.

Coordination in the release of information

During response operations, accurate information must be disseminated in a consistent, coordinated, accessible, and timely manner. The establishment of a joint information centre/system (JIC/JIS) may be of help in this regard. A JIC/JIS is designed to coordinate incident information provided by multiple agencies and integrate the data into a cohesive whole.

Effective use of the media

Response organizations must have systems and processes in place to engage the media effectively. Both traditional and non-traditional media (i.e., social media networks) play a critical role in the response phase. They can help in collecting and disseminating information, and in alerting the public/stakeholders to changing conditions and to actions they need to take (e.g., evacuation). They can also provide indications about the kind of information the public/stakeholders need and expect. Ongoing monitoring of the media is necessary to ensure that information is being disseminated accurately.

The role of social media in communication and information management during emergencies/disasters is fast expanding. Through this technology, real-time

information can be obtained from and provided to a wide audience very rapidly. Using social media also gives one the ability to monitor issues and address them expeditiously. Along with these potential benefits, there are also some challenges. For example, unconfirmed or inaccurate information can also be spread rapidly via social media.

In engaging with all forms of media, response organizations would do well to keep these tips in mind:

- Develop a plan for using the media.
- Keep information up to date. Be vigilant about accuracy. Correct any errors clearly and promptly.
- Consider the integrity of the source from which information is received.
- Respond to issues in a timely manner, regardless of size, scope, or magnitude.
- Consider social media as one tool in a communication toolbox. Go offline as well by addressing issues through other avenues where possible.

Resource management

Definition

Whether in a routine local emergency or one that requires a coordinated provincial response, resource management refers to the coordination, oversight, and processes required to deliver appropriate resources in a timely manner.

Process

In an emergency/disaster, resources are needed at the site and site support levels to enable the responsible jurisdictions and organizations to take appropriate action. Procedures are required to ensure that suitable resources are provided in a timely manner. These procedures should address the following:

- **Resource needs identification**
  The situation must be analyzed to identify resource requirements and to determine resource capabilities and capacity.
- **Resource request management**
  Procedures are needed to track resources and resource requests to ensure that these are not lost or inadvertently set aside. EOCs must keep informed of the status of all resource requests, the person/group assigned to act on each request, and the details of any action taken or planned.
- **Designation and management of critical resources**
  - If a specific resource is in demand by multiple agencies or jurisdictions and not all requests can be met due to limited number, the resource may be designated a "critical resource." If there is competition for critical resources, the PREOC or PECC may be used to prioritize and coordinate resource allocation and distribution according to resource availability, the needs arising from other emergencies/disasters, and other constraints and considerations.
  - Regional consultation can assist the PREOC in prioritizing and allocating resources during regional emergencies/disasters. This gives the local authorities and agencies a voice in regional decisions that would otherwise be made by the PREOC.
- **Deployment of resources**
  Resources are mobilized and deployed in a timely manner to meet the needs in the field. Deployment is based on priority levels:
  - Emergency: Having life or death urgency
  - Priority: Important to support operations within a specific time limit
  - Routine: Supports regular operations

- **Demobilization**
  If resources are no longer required to support response operations, they are demobilized. Resources – including those located at the site and at fixed facilities – are returned, replenished, or if necessary, repaired and/or replaced. They are returned to their original location and status in an orderly, safe, and efficient manner.
- **Payments and reimbursements**
  All costs associated with the use of resources are tracked. Invoices and other financial documents are safeguarded and kept on file so that they are available when needed for reimbursement and compensation purposes. Information on the total cost of the response is included in the final event report.

Responsibilities related to resource management at the site and various site support levels must be identified and communicated to those concerned.

NOTE

The After Action Review (AAR) process is a continuous thread that runs through all phases of emergency management. Response activities as well as supporting actions (such as information sharing, inter-agency communications, resource management, etc.) are subject to review. The outcomes of these reviews and all resulting recommendations are documented in After Action Reports. These provide input for subsequent work done during the response phase itself as well as during recovery, mitigation, and preparedness. This approach helps sustain the cycle of planning, execution, review, and continuous learning that characterizes the BCEMS approach to emergency management. (Detailed information on the After Action process is provided on page 49.)

8 – Recovery

What is recovery?

Definition

Recovery is the phase of emergency management in which steps and processes are taken/implemented to:

- Repair communities affected by a disaster
- Restore conditions to an acceptable level or, when feasible, improve them
- Restore self-sufficiency and increase resilience in individuals, families, organizations, and communities

Recovery consists of several stages (short-term, medium-term, and long-term) and works towards minimizing future damage to communities and the environment.

Recovery measures are initiated as quickly as possible, generally after life safety issues have been addressed. Here are some examples of such measures:

- Temporary housing
- Monitoring of health care needs, including psychosocial needs, and continued provision of health services
- Environmental impact assessment
- Economic recovery
- Planning and reconstruction

Key concepts

- **Coordinating efforts**
  All aid has the potential for both positive and negative impact. The goal of recovery is to maximize the benefits and minimize the negative consequences of assistance. Coordination helps reduce possible conflicts between various assistance strategies.
- **Providing leadership**
  Losses cannot be managed or recovery achieved by simply allowing events to unfold. Agencies and organizations with jurisdictional or statutory responsibility must step forward to provide effective, transparent leadership. Doing so will help reduce the potential for freelancing, duplication of effort, and gaps in services that may otherwise occur.

- **Empowering individuals**
  Successful recovery means empowering those impacted by a disaster in a way that preserves their dignity, embraces their right of choice, and demonstrates respect for their experience. Establishing a community recovery organization whose members serve as advocates for those impacted by an emergency/ disaster will help ensure that this form of empowerment is realized and the entire community/organization is engaged in the process.
- **Recognizing that recovery is multi-faceted**
  Not only does recovery unfold in several stages, there are also several levels of recovery, such as individual, community, organizational, and government. (More information on the stages of recovery is provided in the section that follows.)
- **Acting quickly, planning for the long term**
  Some recovery needs are urgent, and a small amount of help delivered in a timely manner is far more beneficial than a greater number of services that are delivered later. In addition to quick, targeted action, the community recovery organization engages the community in creative problem solving over the long term.
- **Planning for transition**
  It is critical that recovery personnel plan for a transition from emergency recovery activities to long-term community/organizational rebuilding.

Recovery activities

The recovery phase may include but is not limited to the following activities:

- Information and engagement
- Financial management (e.g., insurance, support through DFA Program)
- Continued provision of key services (e.g., post-disaster health care, lodging)
- Business recovery
- Critical infrastructure recovery
- Disaster debris management

Information and engagement

The goal of information and engagement in the recovery phase is to ensure that all involved have the information they need to understand what happens during this phase and that this information is made available in a consistent, accurate, and transparent manner.

The information is disseminated to various target audiences:

- Internal departments
- All levels of government
- Emergency management agencies
- Not-for-profit organizations
- Donors
- Public/stakeholders
- Insurance adjusters
- Auditors/inspectors

A variety of communication methods may be used, including communications technology (e.g., websites, social media, and news media), the dissemination of information through community resilience centres, and venues for public engagement, such as community meetings.

Financial management

Insurance

Insurance is a financial tool that covers the insured party for some risks in disasters. Few individuals or businesses have the reserve of funds necessary to take on such risk themselves. Purchased insurance helps to cover financial costs associated with certain types of damage and rebuilding after a disaster.

Private insurance for individuals and businesses covers most risks; however, with the ever increasing number of insurance claims being covered and the involvement of international reinsurers, the timing of a settlement can have a significant impact on recovery. Insurance premiums are expected to increase over time as the payment of claims from disasters increases. The ability of households, businesses, and local government to secure insurance may be a critical element in determining how quickly recovery occurs. The onus is largely on the insurance holder to know what his or her policy covers and whom to contact when the need arises.

Disaster Financial Assistance (DFA) Program

When a disaster has a significant impact on a community, the province may declare the area eligible for support through the Disaster Financial Assistance (DFA) Program. Administered by EMBC, this program provides compensation in compliance with the *Emergency Program Act* and the Compensation and Disaster Financial Assistance Regulation.

DFA helps those affected by a disaster in situations where the losses could not be insured or where other assistance programs are not available. It provides or reinstates the necessities of life, including help to repair and restore damaged homes and to re-establish or maintain the viability of small businesses and working farms. DFA also helps local governments repair essential infrastructure.

DFA can provide financial compensation for losses deemed eligible under the program criteria. While there is no maximum claim amount for local governments, they are required to provide a recovery plan by completing a Local Government Application for DFA.

Grants, special funding, and recovery loans

Under certain circumstances, specialized grants, funding, or loans may be available to support individual, business, or community recovery. Generally sponsored by provincial and federal governments, these programs do not exist before a disaster; hence, funding streams are not guaranteed. Furthermore, eligibility requirements, coverage limitations, and terms and conditions for financial support vary widely and likely depend on the specific effects of the emergency/disaster. Regardless, in the event of a major disaster, local authorities can assist individuals and businesses by ensuring that, should special funds become available, information about them is accessible (ideally through “one-stop shop” websites and resilience centers), and applicants are offered guidance and advice as they navigate through documentation requirements.

Continued provision of key services

Post-disaster health care

Disaster recovery efforts emphasize the protection and promotion of the health and well-being of affected citizens. The health system (on all levels of government and through private entities) is expected to:

- Continue providing emergency services
- Restore health services as soon as possible
- Meet any surge in demand created by the disaster
- Continue to assess psychosocial needs, and develop and implement plans for addressing them

Individuals affected by a disaster may require different forms of support, such as continuity of health care services, measures to ensure environmental health, psychosocial support, and information on healthy lifestyle choices.

While the health system has a key role in such activities, all stakeholders involved in recovery efforts have a role to play in the promotion of health after a disaster.

Lodging

With regard to lodging, the goal in recovery is to provide sufficient emergency lodging as close as possible to the affected area. The ability to provide lodging during the recovery phase depends on the availability of resources such as trailers, tents, temporary shelters, mobile homes, vacant apartment units, etc.

The three types of lodging are:

- **Shelter**
  This refers to housing that is provided during the initial emergency response phase. It involves the shortest period of time, typically ranging from three to six months. Shelter is most often shared in groups and is always considered transitional. Group lodging is a functional element used for evacuees during the response phase.
- **Transitional lodging**
  Transitional lodging is an interim service typically provided after the shelter stage and before the housing stage. The transitional lodging period could begin immediately after the initial response phase and may last for several months. Transitional lodging is generally more private or semi-private than shelter, but it may still include some shared services. The provision of transitional lodging may involve the cleaning, restoration, and repair of damaged accommodations.

- **Housing**
  This refers to the permanent homes that people occupy, and would not be considered interim or transitional. An example is new construction and renovated housing stock (single-family homes, apartment buildings, condominiums, etc.).

Business recovery

Business and industry provide resources, expertise, and essential services (including critical infrastructure) that enable communities to function. Hence, they play a fundamental role in a community's recovery.

Businesses themselves have their own disaster recovery needs, however, and governments and communities have a role to play in supporting business continuity and recovery efforts. The primary goal of these efforts is to assist the private sector in implementing their business continuity plans so that they can resume operations in as timely a manner as possible.

In their efforts to resume operations, businesses should consider mutual aid relationships and contracts, possible income-generating opportunities, financial assistance programs, and other forms of support that may be available in the community.

Critical infrastructure recovery

Any disruption or loss involving critical infrastructure can have debilitating effects on a community or organization. The ability to recover from such a disruption or loss is key to overall recovery, and depends on a coordinated and comprehensive effort to assess impact, prioritize infrastructure restoration, and initiate rebuilding processes.

In the context of critical infrastructure recovery, the following are to be considered:

- Conduct of rapid damage assessment
- Confirmation of dependencies and interdependencies
- Information sharing among stakeholders (i.e., sharing of restoration plans and recovery strategies)
- Prioritization of support resources as required
- Incorporation of mitigation activities into the restoration and rebuilding process

Disaster debris management

The scale and impact of debris generated from one disaster can overwhelm existing solid waste structures and resources. When planning for disaster debris, one must also account for the continuation of regular solid waste services. Debris management also influences the speed of physical, social, and economic recovery. When done effectively, it helps ensure the implementation of other recovery activities, such as the resumption of services (e.g., health, transportation, financial, and critical infrastructure), the resumption of business, and response to psychosocial issues.

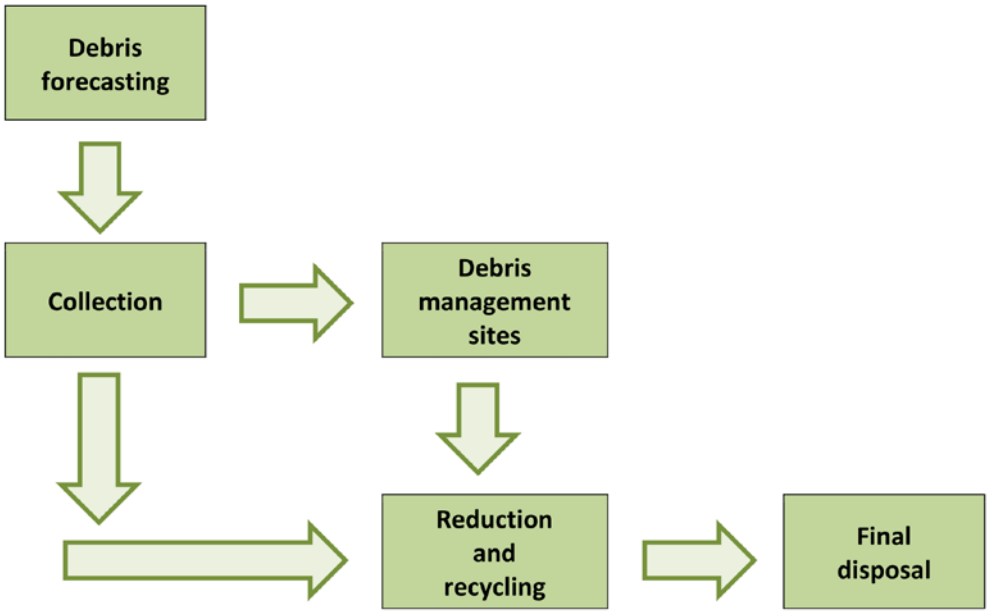
NOTE

Disaster debris management does not include the handling of human remains. The BC Coroners Service takes the lead with respect to this area of concern. Fatality management plans have been developed to coordinate the completion of required tasks at the provincial and local levels.

Stages

As shown in this diagram, disaster debris management consists of five stages.

DISASTER DEBRIS MANAGEMENT PROCESS



- **Debris forecasting**
  This refers to the act of estimating how much debris a specific emergency event would generate. This is done before an emergency/disaster as a planning tool and also after the event to confirm the quantity of debris actually generated. Debris forecasting includes the determination of categories of debris, such as concrete, steel, vegetation, mass carcasses, construction, and demolition.

NOTE

The Ministry of Agriculture provides advice and support for the disposal of livestock carcasses that may result from a disaster. Support includes coordinating with local authorities to secure resources, identifying disposal sites, and, depending on the scale of the event, engaging contractors to perform disposal services, such as transport, landfilling, or composting.

- **Collection**
  Several considerations are taken into account when planning debris collection. At the highest level, a decision must be made on whether it will be done via curbside collection or through drop-off services. Transportation capacity and options will influence these decisions.
- **Debris management sites**
  Deciding where to locate debris sites may be a politically sensitive issue. After a major disaster, sites will need to be repurposed (temporarily or permanently) to accept and process disaster debris. Operational objectives will determine whether debris is sorted on-site or at central locations; and site size and selection are influenced by the quantity and composition of debris. Sites will then need to be qualified based on the specific properties of the debris to be housed.
- **Reduction and recycling**
  Reduction and recycling options help reduce the quantity and physical size of debris; hence, these options also reduce the strain on resources. Due to the co-mingled or contaminated nature of disaster debris, business-as-usual practices, approvals, and regulations may not apply. How waste is processed and used must be investigated.
- **Final disposal**
  Several options exist for final disposal of disaster debris. These include regular landfills, infill projects (terrestrial and marine) and just-in-time landfills. Depending on the quantity and urgency of disposal, exceptions to regulations and expediting of approvals may need to be considered.

NOTE

Where disaster debris is stored and for how long may have an impact on human and environmental health. For example, site conditions will dictate how fast or to what degree contaminants will be absorbed into the land and waterways. How the debris is handled also influences the short- and long-term health of personnel.

Administrative functions

Several administrative functions cut across all stages of disaster debris management:

- **Roles and responsibilities**
  These need to be clearly identified. It is important to acknowledge, however, that responsibilities will shift depending on the size of the event.
- **Compliance mechanisms**
  The legislative and regulatory compliance mechanisms that exist for regular operations will also need to be set in place. How (or if) these existing practices may be loosened or fast-tracked during an emergency/disaster must be determined.
- **Financing**
  The *Disaster Financial Assistance Guidelines* speak directly and indirectly to reimbursement options for disaster debris. The DFA Program provides different funding schemes for response and for recovery (100% recoverable and 80% recoverable, respectively). As the majority of disaster debris efforts occur during the recovery phase, it would be prudent to identify funding sources to address the remaining 20% of costs not covered by the DFA. It would also be prudent to establish mechanisms by which invoices could be paid while reimbursements are being processed and approved. Insurance is an additional financial consideration: What is covered? What is not? What documentation is required? What is the process and timing for reimbursement?

Depending on the scale of the disaster and the amount of debris generated, many different levels of government may be involved, with the support of private industry. Throughout the process, various agencies and private groups will need to be engaged, including engineering, solid waste, emergency management, transportation, environment, health, elected officials, recycling, disposal, auditors, finance, logistics, security, communications, and media.

Stages of recovery

As described in the table below, the pursuit of recovery is a three-stage process. When moving through these stages, the affected community/organization will need to:

- Set priorities for recovery
- Articulate the roles and responsibilities of all involved
- Set realistic milestones for gauging how much progress has been made
- Ensure the effective transfer of knowledge, expertise, services, and support

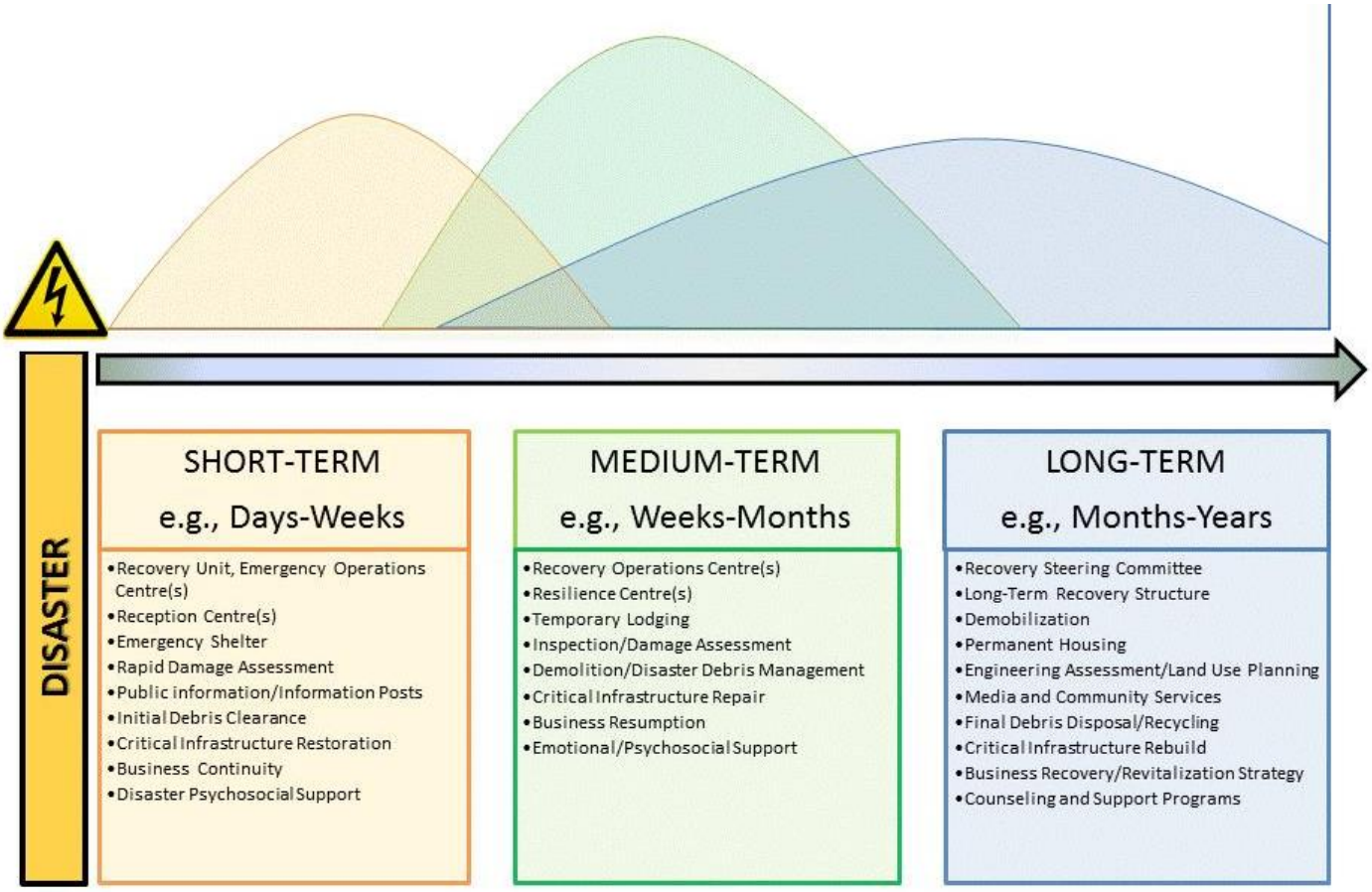
The timing of the transition from one stage of recovery to the next may vary depending on the circumstances. Of greater importance is the progression of activities that will enable the affected community/organization to return to pre-disaster conditions. The extent of the recovery process reflects the scope and scale of the disaster.

STAGE OF RECOVERY	FEATURES
Short-term (e.g., days to weeks after the emergency/disaster)	• This stage begins simultaneously with the onset of response activities. • The focus is on ensuring the continued provision of basic human needs and key support services. • As the emergency/disaster progresses, steps toward recovery are taken and planning objectives are established. The restoration of basic functions of society depends on how quickly recovery activities and plans are initiated. • The transition from response to recovery starts before the end of the response phase. As a result, a period of overlapping activities will occur during which people and groups most heavily affected by the emergency/disaster focus on response activities while those less affected can be transitioning to restoration and other recovery activities. (The duration and timing of the overlap depends on the type and severity of the damage incurred.)
Medium-term (e.g., weeks to months)	• By this stage, emergency response activities have been or will soon be completed, and there is movement toward activities geared specifically to recovery. There is greater involvement of not-for-profit organizations, insurers, financial institutions, and volunteer groups. • The focus is on re-establishing the movement of goods and services, resuming business and economic functions, and undertaking environmental rehabilitation.

STAGE OF RECOVERY	FEATURES
Long-term (e.g., months to years)	• This stage involves sustained efforts to adapt to the "new normal," which may include the replacement, rebuilding, or improvement of what was affected by or lost in the emergency/disaster. Financial, political, and environmental issues are addressed, and efforts are geared towards rehabilitating or improving the livelihood of disaster-affected communities. • The focus is on risk reduction through changes in building codes and land-use designations (transitioning to mitigation), the establishment of permanent housing and facilities, business resumption, and long-term mental health and social support services to individuals. • The objective is to "build back better," and to establish resilient communities.

The diagram on the following page illustrates the three stages of recovery and the activities that may be undertaken during each stage.

STAGES OF RECOVERY



Recovery models

A number of recovery models may be used to facilitate the movement from stage to stage of recovery:

- Recovery unit
- Community resilience centre(s)
- Recovery Operations Centre
- Recovery Steering Committee
- Long-term recovery structure

The use of one or more of these models depends on the scope and scale of the damage incurred and the extent of the recovery process.

Recovery unit

The first model is a recovery unit established within the EOC (planning function) to focus on completing response activities and initiating and managing short-term recovery activities. Its specific responsibilities may include:

- Assessing community/organization recovery requirements and developing recovery plans
- Identifying immediate steps to initiate and speed up recovery within the community/organization
- Anticipating long-term actions required to restore local services
- Liaising with other organizations/agencies involved in recovery
- Establishing plans to transition the EOC to a Recovery Operations Centre
- Supporting the establishment of a Recovery Steering Committee and the appointment of a recovery director

Community resilience centre

The purpose of a community resilience centre (also known as community recovery office and/or community recovery centre) is to assist individuals through the recovery process. The community resilience centre provides the space for and coordination of the various agencies and groups offering guidance, advice, and assistance to those affected by an emergency/disaster.

Assistance is provided through the steps listed below. Depending on the needs of the affected individuals, some of these steps may be expanded to assist those with more complex recovery requirements.

1 **Complete a capacity and needs assessment with community residents**
Completing a Capacity and Needs Assessment form ensures that community resilience centre staff have a full understanding of the most urgent individual needs and community capacity.

2 **Assist individuals in completing their personal action plan**
The plan is designed to help the person focus on practical next steps in his or her recovery process. It is retained by those affected by the event.

3 **Ensure that those with urgent needs are connected with the appropriate agencies/groups**
Examples include:

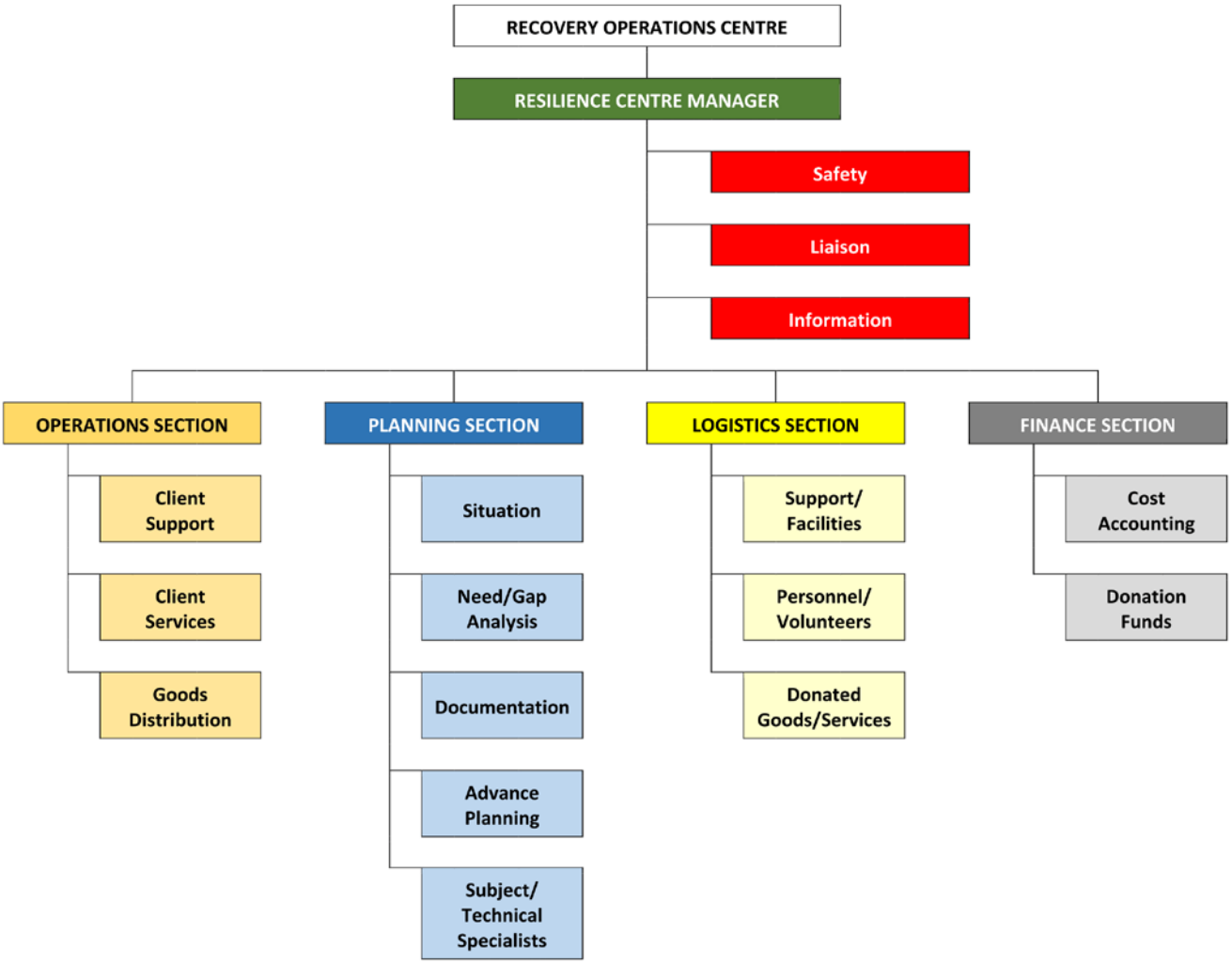
- Pursuing family reunification efforts
- Linking elderly homeowners who need assistance in removing debris with residents who are able to do so
- Providing psychosocial support services, including trauma counselling
- Engaging public health agencies to provide water testing
- Linking home-based business owners with members of the local Chamber of Commerce or Rotary Club

4 **Monitor individual progress throughout the recovery process**
Follow-ups can be undertaken by not-for-profit organizations and other community-based volunteer organizations. However, this must be carried out in a coordinated manner with the information being provided to the appropriate community resilience centre. The follow-up should include a review of the individual's personal action plan so that progress can be monitored and the plan revised to reflect any unforeseen steps necessary for recovery.

While it might not be possible to meet all the identified needs of affected individuals and families, using this "one-stop shop" approach ensures that stakeholders have the opportunity to coordinate their assistance to community members. This type of support empowers a community and helps build resilience.

Following is a sample structure for a community resilience centre. It shows the relationship between this centre and a Recovery Operations Centre. (More information on the Recovery Operations Centre is provided on page 99.) In the circumstances surrounding a particular event, variations may be required to address community and organizational needs effectively. Variations should be made in accordance with ICS principles.

COMMUNITY RESILIENCE CENTRE – SAMPLE ORGANIZATIONAL STRUCTURE

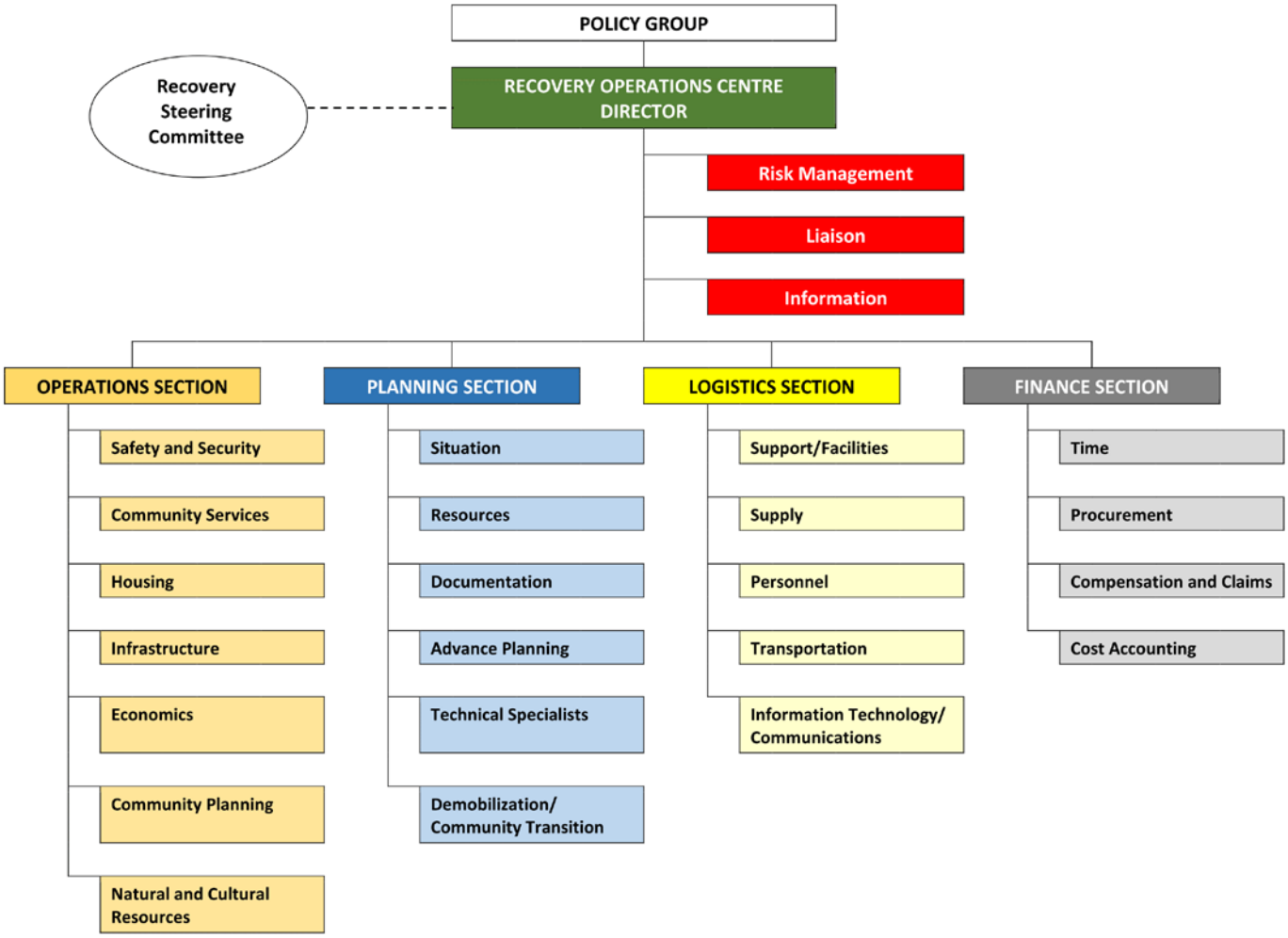


Recovery Operations Centre (ROC)

As focus and coordination shifts from response to recovery activities, a Recovery Operations Centre is established to provide continuity in the support and coordination of recovery activities. Using the same ICS structure as that of the EOC, the ROC consists of four sections: operations, planning, logistics, and finance. Establishing units and branches within these sections expands the structure to accommodate more complex recovery requirements.

Following is a diagram of a sample ROC structure. As mentioned previously, in the circumstances surrounding a particular event, variations may be required to address community and organizational needs effectively. Variations should be made in accordance with ICS principles.

RECOVERY OPERATIONS CENTRE – SAMPLE ORGANIZATIONAL STRUCTURE



Recovery Steering Committee (RSC)

The third model is a Recovery Steering Committee (also shown in the diagram above). Once an issue no longer requires management within the ICS-based structure, it can be handed off to this committee, which focuses on any recovery activity that can be managed through normal business practices. This multi-agency committee is composed of senior representatives from key organizations (e.g., volunteer groups, business improvement associations, and various levels of government). It is initially established under the oversight of the Recovery Operations Centre, and receives guidance and support from the recovery director. Eventually, however, it manages all recovery activities.

The Recovery Steering Committee works with existing community resources, identifies potential gaps, and seeks to connect with agencies that can fill those

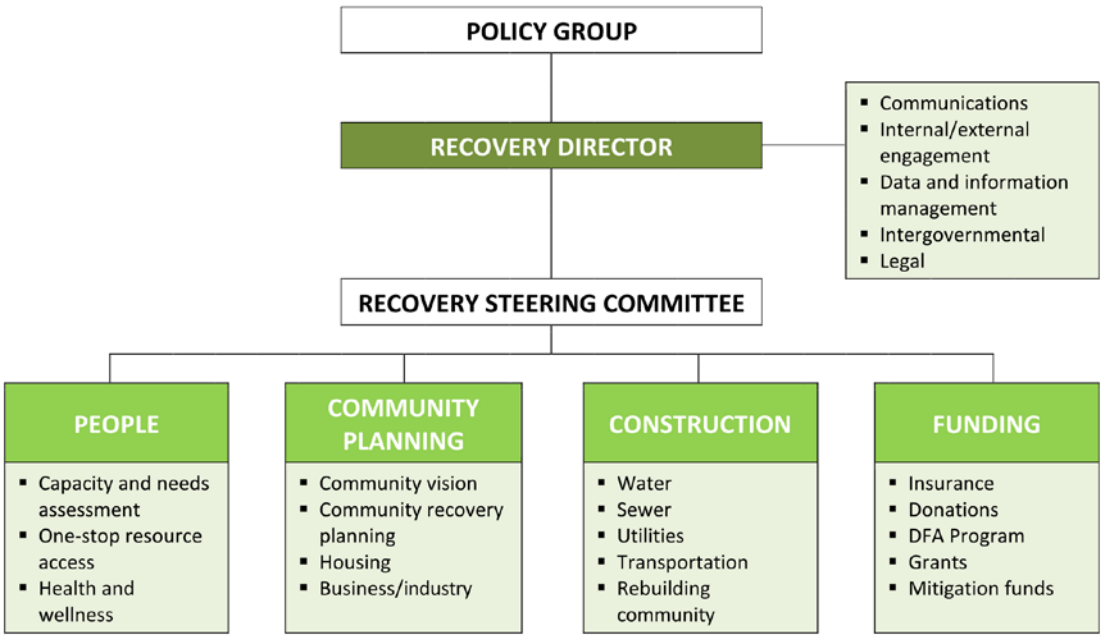
gaps. Working together, the committee and these agencies identify their respective strengths and delineate their roles and responsibilities based on those strengths. The agencies also develop a phased approach to transition from recovery to normal community business practices and services.

Long-term recovery structure

The long-term recovery structure is supported by the Recovery Steering Committee under the direction of the recovery director and the policy group of the Recovery Operations Centre until such time that the ROC is deactivated or demobilized. Recovery activities continue under community- and organization-based project management, with an eventual transition to the mitigation phase. These activities may include the following:

- Identifying mitigation activities/projects
- Obtaining funding
- Implementing lessons learned
- Updating the HRVA
- Ensuring ongoing integrated communication at all levels

LONG-TERM RECOVERY STRUCTURE



The elements/functional responsibilities reflected in this diagram may be coordinated within various centres and agencies.

NOTE

An After Action Review (AAR) is conducted even as the community recovers from the impact of a disaster. As mentioned previously, there is a need to capture lessons learned by reflecting on the disaster itself and the planning and response efforts undertaken. The outcomes of these reviews are valuable in planning and implementing recovery initiatives. The After Action process is also conducted at the conclusion of recovery projects and activities. In all cases, an After Action Report is prepared and disseminated to all concerned. The recommendations made in these reports are taken into account during the mitigation, preparedness, and response phases. (Detailed information on the After Action process is provided on page 49.)

9 – Moving Forward

Emergency Program Self-Assessment Checklist

Purpose

One of the goals of the BCEMS guide is to enable emergency management practitioners in BC to apply BCEMS in assessing, developing, and strengthening their emergency management program.

The self-assessment checklist provided in this section is designed to facilitate that program review process and lead to the following outcomes:

- A greater awareness and understanding of the various aspects and components of the existing emergency program
- A recognition of gaps that might yet exist in the program
- The identification of steps that can be taken to close those gaps

The checklist is not an audit tool. The outcomes of the self-assessment are for the exclusive use of the group that completed the process.

Process

Ideally the program review process is led by the person responsible for the emergency program, preferably with the participation of a small group of individuals already involved in it.

The following steps are recommended:

- The group may take some time to review the contents of the BCEMS guide and then complete the checklist. The assessment points listed in the checklist are phrased as questions and make reference to the page(s) of the guide on which relevant information can be found.
- After considering and answering each question, the group may record notes regarding the assessment point. For example, if the task described in the assessment point is determined to be “In Process” rather than “Completed,” the group may decide that it should request an update from those responsible for that task. Such a note could be recorded in the Notes field. Using this field will enable the group to use the checklist as a self-tracking tool.

- Once the assessment checklist has been completed, the group may list the names and positions of those who were involved in the program review process and also indicate the date on which the checklist was completed. Fields are provided for this information. Completed checklists can then be revisited periodically as part of the program maintenance and continuous improvement process.

If the group identifies any gaps or missing elements in their emergency program, they can determine how these gaps will be addressed and develop a plan that sets priorities for action.

Emergency Program Self-Assessment Checklist

BCEMS GUIDE	PHASE	COMPLETED	IN PROCESS	NOT YET INITIATED	NOT APPLICABLE	NOTES
	A. GETTING STARTED					
Page 23	1. Has an emergency management program been established in the community/organization?	○	○	○	○	
Page 25	2. Has authority for the program been established by legislation, regulation, or policy?	○	○	○	○	
Page 23	3. Is there a clearly designated emergency management authority in the community/organization (e.g., mayor and council for local authorities; chief executive officer)?	○	○	○	○	
Page 23	4. Has a specific group within the community/organization been identified to assume overall responsibility for the program?	○	○	○	○	
Page 25	5. Have personnel been designated roles and responsibilities with regard to the program?	○	○	○	○	

Emergency Program Self-Assessment Checklist

BCEMS GUIDE	PHASE	COMPLETED	IN PROCESS	NOT YET INITIATED	NOT APPLICABLE	NOTES
	A. GETTING STARTED (continued)					
Page 24	6. Has an emergency program coordinator (planner/manager/ director) been assigned?	○	○	○	○	
Page 24	7. Have the duties of the emergency program coordinator (planner/manager/director) been clearly defined?	○	○	○	○	
Page 24	8. Has the emergency program coordinator (planner/ manager/director) been provided with the appropriate level of authority and decision-making ability?	○	○	○	○	
Page 26	9. Have stakeholders been identified?	○	○	○	○	
Page 29	10. Have hazards, risks, and vulnerabilities been identified (e.g., through an HRVA or other form of risk assessment)?	○	○	○	○	

Emergency Program Self-Assessment Checklist

BCEMS GUIDE	PHASE	COMPLETED	IN PROCESS	NOT YET INITIATED	NOT APPLICABLE	NOTES
	A. GETTING STARTED (continued)					
Page 26, 27	11. Have business continuity or business resumption plans been developed?	○	○	○	○	
Page 26, 27	12. Have these business continuity or business resumption plans been integrated with the emergency plan?	○	○	○	○	
Page 25	13. Is there a defined budget for the emergency management program?	○	○	○	○	
Page 25	14. Are there processes to ensure program maintenance and continuous improvement (i.e., implementing After Action Report recommendations)?	○	○	○	○	
Page 24	15. Are annual work plans developed by the program?	○	○	○	○	

Emergency Program Self-Assessment Checklist

BCEMS GUIDE	PHASE	COMPLETED	IN PROCESS	NOT YET INITIATED	NOT APPLICABLE	NOTES
	A. GETTING STARTED (continued)					
Page 24	16. Are annual reports prepared by the program?	○	○	○	○	
	B. MITIGATION PHASE					
Page 31	1. Have mitigation issues and challenges been identified by the community/organization?	○	○	○	○	
Page 31	2. Were the results of the HRVA/risk assessment used in identifying mitigation issues and challenges?	○	○	○	○	
Page 32	3. Were critical infrastructure assets identified, assessed, and prioritized?	○	○	○	○	

Emergency Program Self-Assessment Checklist

BCEMS GUIDE	PHASE	COMPLETED	IN PROCESS	NOT YET INITIATED	NOT APPLICABLE	NOTES
	B. MITIGATION PHASE (continued)					
Page 32	4. Was critical infrastructure impact considered in identifying mitigation issues and challenges?	○	○	○	○	
Page 32	5. Were past emergencies/disasters considered in identifying those issues and challenges?	○	○	○	○	
Page 35	6. Have specific mitigation tools (e.g., hazard mapping and modeling) and activities been identified to address those issues and challenges?	○	○	○	○	
Page 35, 36	7. Have financial and other resources been secured for the implementation of mitigation tools, activities, and measures?	○	○	○	○	
Page 32	8. Have mitigation measures been integrated into the community/organization's business continuity plans?	○	○	○	○	

Emergency Program Self-Assessment Checklist

BCEMS GUIDE	PHASE	COMPLETED	IN PROCESS	NOT YET INITIATED	NOT APPLICABLE	NOTES
	B. MITIGATION PHASE (continued)					
Page 32	9. Have mitigation measures been integrated into the community/organization's emergency plans?	○	○	○	○	
Page 33	10. Have stakeholders been engaged for the implementation of mitigation tools, activities, and measures?	○	○	○	○	
Page 36	11. Have the identified tools, activities, and measures been implemented?	○	○	○	○	
Page 37	12. Is the implementation of these tools, activities, and measures regularly reviewed?	○	○	○	○	
Page 37	13. Are improvements incorporated into future mitigation activities?	○	○	○	○	

Emergency Program Self-Assessment Checklist

BCEMS GUIDE	PHASE	COMPLETED	IN PROCESS	NOT YET INITIATED	NOT APPLICABLE	NOTES
	C. PREPAREDNESS PHASE					
Page 40	1. Has an all-hazards emergency plan that incorporates the Incident Command System (ICS) structure been developed?	○	○	○	○	
Page 42	2. Have hazard-specific plans, function-specific plans, operational procedures or guidelines been developed?	○	○	○	○	
Page 39	3. Have the HRVA/risk assessment results been reflected in these plans?	○	○	○	○	
Page 41	4. Have legislated/regulatory requirements been addressed in these plans?	○	○	○	○	
Page 40	5. Have the appropriate stakeholders been engaged in the planning process?	○	○	○	○	

Emergency Program Self-Assessment Checklist

BCEMS GUIDE	PHASE	COMPLETED	IN PROCESS	NOT YET INITIATED	NOT APPLICABLE	NOTES
	C. PREPAREDNESS PHASE (continued)					
Page 41, 42	6. Have the roles and responsibilities of personnel and agencies been delineated in these plans?	○	○	○	○	
Page 43	7. Is there a role for volunteers (e.g., Public Safety Lifeline volunteers, psychosocial volunteers) in the emergency management program?	○	○	○	○	
Page 43	8. Are there processes for engaging volunteers to participate in the program?	○	○	○	○	
Page 43	9. Has an emergency volunteer management plan been developed?	○	○	○	○	
Page 42	10. Have concepts of operations (scalable and flexible based on the scope of the hazards) been incorporated into the plans?	○	○	○	○	

Emergency Program Self-Assessment Checklist

BCEMS GUIDE	PHASE	COMPLETED	IN PROCESS	NOT YET INITIATED	NOT APPLICABLE	NOTES
	C. PREPAREDNESS PHASE (continued)					
Page 43	11. Have the required resources (e.g., financial resources, facilities, personnel, volunteers, equipment, materials, etc.) been identified and secured?	○	○	○	○	
Page 43	12. Have resource planning/logistical measures been developed to ensure that resources are available when needed?	○	○	○	○	
Page 43	13. Are resource inventories maintained and assessed regularly?	○	○	○	○	
Page 43	14. Have standing agreements and contracts been established as required to support all phases of emergency management?	○	○	○	○	
Page 45	15. Has a formal training program been set up to ensure that personnel are prepared for their roles in all phases of emergency management?	○	○	○	○	

Emergency Program Self-Assessment Checklist

BCEMS GUIDE	PHASE	COMPLETED	IN PROCESS	NOT YET INITIATED	NOT APPLICABLE	NOTES
	C. PREPAREDNESS PHASE (continued)					
Page 45	16. Has a training matrix been prepared and integrated with those of key stakeholders?	○	○	○	○	
Page 44	17. Are the required personnel, volunteers, and stakeholders being trained?	○	○	○	○	
Page 45	18. Has an exercise program been developed and integrated with those of key stakeholders?	○	○	○	○	
Page 46	19. Are the required personnel, volunteers, and stakeholders engaged in exercises?	○	○	○	○	
Page 45	20. Are exercises being conducted to test systems and validate plans/procedures?	○	○	○	○	

Emergency Program Self-Assessment Checklist

BCEMS GUIDE	PHASE	COMPLETED	IN PROCESS	NOT YET INITIATED	NOT APPLICABLE	NOTES
	C. PREPAREDNESS PHASE (continued)					
Page 45	21. Are exercises being conducted to test the functionality of facilities and equipment?	○	○	○	○	
Page 47	22. Have public/stakeholder awareness and education materials been developed (e.g., web-based, print)?	○	○	○	○	
Page 47	23. Are public/stakeholder awareness campaigns and education sessions being delivered?	○	○	○	○	
Page 48	24. Is the implementation of these preparedness tools and activities regularly reviewed?	○	○	○	○	
Page 48	25. Are improvements incorporated into future preparedness activities?	○	○	○	○	

Emergency Program Self-Assessment Checklist

BCEMS GUIDE	PHASE	COMPLETED	IN PROCESS	NOT YET INITIATED	NOT APPLICABLE	NOTES
	D. RESPONSE PHASE					
Page 73	1. Are there formal processes for notifying response personnel and volunteers in an emergency/disaster?	○	○	○	○	
Page 73	2. Are there formal processes for notifying stakeholders in an emergency/disaster?	○	○	○	○	
Page 73	3. Are there formal processes for alerting the public and/or key entities of an impending emergency/disaster that requires action?	○	○	○	○	
Page 73	4. Are there specific triggers and processes for activating the emergency plan, personnel, volunteers, etc.?	○	○	○	○	
Page 74	5. Is there a comprehensive approach for accessing and compiling situational awareness information about the status of the emergency/disaster?	○	○	○	○	

Emergency Program Self-Assessment Checklist

BCEMS GUIDE	PHASE	COMPLETED	IN PROCESS	NOT YET INITIATED	NOT APPLICABLE	NOTES
	D. RESPONSE PHASE (continued)					
Page 53	6. Have potential response priorities been identified based on BCEMS goals?	○	○	○	○	
Page 77	7. Are there technical communications and information management systems to ensure effective information sharing with responding personnel, volunteers, and stakeholders?	○	○	○	○	
Page 80	8. Are there processes for issuing public/stakeholder messaging and information?	○	○	○	○	
Page 78, 80	9. Are there processes for managing documentation during a response?	○	○	○	○	
Page 82	10. Are there plans and procedures to ensure that resources are identified, prioritized, deployed, and managed effectively during a response?	○	○	○	○	

Emergency Program Self-Assessment Checklist

BCEMS GUIDE	PHASE	COMPLETED	IN PROCESS	NOT YET INITIATED	NOT APPLICABLE	NOTES
	D. RESPONSE PHASE (continued)					
Page 76, 83	11. Are there processes for demobilizing personnel, volunteers, facilities, equipment, supplies, etc.?	○	○	○	○	
Page 83	12. Are there financial management processes for coordinating, tracking, and processing response costs?	○	○	○	○	
Page 83	13. Are there processes for debriefing personnel, volunteers, and stakeholders on operational activities?	○	○	○	○	
Page 54, 68	14. Are there processes for providing psychosocial support?	○	○	○	○	
Page 83	15. Are After Action Reports prepared following an emergency/ disaster?	○	○	○	○	

Emergency Program Self-Assessment Checklist

BCEMS GUIDE	PHASE	COMPLETED	IN PROCESS	NOT YET INITIATED	NOT APPLICABLE	NOTES
	D. RESPONSE PHASE (continued)					
Page 97	16. Has a recovery unit been established within the response structure to facilitate the transition from response to recovery?	○	○	○	○	
	E. RECOVERY PHASE					
Page 97	1. Have processes and appropriate models (structures) been established to facilitate the transition through short-term, medium-term, and long-term recovery?	○	○	○	○	
Page 94	2. Has a recovery timeline been established?	○	○	○	○	
Page 87	3. Have key stakeholders been identified to engage in recovery?	○	○	○	○	

Emergency Program Self-Assessment Checklist

BCEMS GUIDE	PHASE	COMPLETED	IN PROCESS	NOT YET INITIATED	NOT APPLICABLE	NOTES
	E. RECOVERY PHASE (continued)					
Page 94	4. Have potential recovery priorities been identified?	○	○	○	○	
Page 87	5. Are there processes for implementing short-term, medium-term, and long-term recovery activities (e.g., disaster debris management, business recovery, infrastructure repair, continued provision of key services such as health care, psychosocial support, and lodging)?	○	○	○	○	
Page 85	6. Have these recovery activities been integrated with those of other stakeholders?	○	○	○	○	
Page 88	7. Has information been accessed regarding recovery funding applicable to the community/organization?	○	○	○	○	
Page 99, 100, 101	8. Are there procedures to ensure that resources are identified, prioritized, and managed effectively during recovery?	○	○	○	○	

Emergency Program Self-Assessment Checklist

BCEMS GUIDE	PHASE	COMPLETED	IN PROCESS	NOT YET INITIATED	NOT APPLICABLE	NOTES
	E. RECOVERY PHASE (continued)					
Page 99, 100, 101	9. Are there financial management processes for tracking and managing all recovery costs?	○	○	○	○	
Page 99, 100, 101	10. Are there processes for managing documentation during recovery?	○	○	○	○	
Page 102	11. Are After Action Reports prepared following the completion of recovery activities?	○	○	○	○	

This checklist was completed by: (*List the names and positions of those involved in the program review process. If necessary, use the additional space provided at the back of this page.)*	Date completed:

What are the program's top five priorities for the next two years? (*If necessary, use the additional space provided at the back of this page*.)

Program's top five priorities for the next two years (continued)
Members of program review group (continued)

Some additional information sources

This guide provides an overview that will enable emergency management practitioners to gain familiarity with:

- The BCEMS framework, including legislation relevant to emergency management, guiding principles, terminology, etc.
- The four phases of emergency management and the components of each phase

The content of the guide consists in large part of high-level information rather than operational details. Additional information on the various topics covered in this guide is available online through the following key sources.

EMBC homepage

The EMBC homepage, which is located at http://www2.gov.bc.ca/gov/content/safety/emergency-preparedness-response-recovery/emergency-management-bc, provides links to the EMBC *Strategy to Advance Support for Local Authority Emergency Management Programs* and to its 2014-15 strategic plan and annual report. In addition, the site consists of four sections.

SECTION and URL	WHAT YOU CAN FIND THERE
Provincial Emergency Planning http://www2.gov.bc.ca/gov/content/safety/emergency-preparedness-response-recovery/emergency-management-bc/provincial-emergency-planning	Links to: • BC Earthquake Immediate Response Plan • EMBC Comprehensive Emergency Management Plan • Other emergency plans and programs, such as Agriculture Emergency Planning, BC Coroners Service Mass Fatality Response Plan, BC Drought Response Plan, among others
EM Training and Exercise Program http://www2.gov.bc.ca/gov/content/safety/emergency-preparedness-response-recovery/emergency-management-bc/emergency-management-training-and-exercises	• EM Training Program – links to: o Schedules for EMBC-sponsored regional emergency management courses o Information on the emergency management webinar series o EM training resources, such as *EM In BC: The Core* (participant guide) and *EM in BC Reference Manual*

SECTION and URL	WHAT YOU CAN FIND THERE
EM Training and Exercise Program (continued) http://www2.gov.bc.ca/gov/content/safety/emergency-preparedness-response-recovery/emergency-management-bc/emergency-management-training-and-exercises	• Exercise Program o Information on *Exercise Coastal Response,* which is BC's first full-scale earthquake and tsunami response exercise, designed to test and exercise critical elements of the earthquake *Immediate Response Plan*
Flood Protection and Planning http://www2.gov.bc.ca/gov/content/safety/emergency-preparedness-response-recovery/emergency-management-bc/flood-protection-and-planning	Links to information on: • Land-use management and flood proofing • Dike management and safety (from the Ministry of Forests, Lands and Natural Resource Operations) • Flood Protection Program • Fraser River Sediment Management Program • Relevant legislation • Cleaning up after a flood • Sandbagging • Flood preparedness for businesses
EMBC Policies http://www2.gov.bc.ca/gov/content/safety/emergency-preparedness-response-recovery/emergency-management-bc/embc-policies	• Links to policies and procedures that have been developed to support EMBC staff and its affiliated groups in meeting their service objectives
Legislation and Regulations http://www2.gov.bc.ca/gov/content/safety/emergency-preparedness-response-recovery/emergency-management-bc/legislation-and-regulations	Links to: • *Emergency Program Act* 1996 • Emergency Program Management Regulation 1994 • Compensation and Disaster Financial Assistance Regulation 1995 • Local Authority Emergency Management Regulation 1995

EMBC webpage on phases of emergency management

This page is found at http://www2.gov.bc.ca/gov/content/safety/emergency-preparedness-response-recovery/local-emergency-programs. While most of the information provided is geared to local authorities, it may be possible for business, industry, and other groups to tailor the information to their own objectives and needs. This site consists of seven sections.

SECTION and URL	WHAT YOU CAN FIND THERE
Establishing an Emergency Management Program http://www2.gov.bc.ca/gov/content/safety/emergency-preparedness-response-recovery/local-emergency-programs/establishing-an-emergency-program	• Information on the importance of passing a bylaw to authorize and empower a local authority to develop and maintain an emergency program • Links to: o Sample bylaws o Relevant provincial legislation
Local Authority Emergency Planning http://www2.gov.bc.ca/gov/content/safety/emergency-preparedness-response-recovery/local-emergency-programs/local-authority-emergency-planning	• Information on the importance of preparing emergency plans and the general characteristics of an effective plan • Links to: o Public Safety Canada publication entitled *A Guide to Business Continuity Planning* o Two Justice Institute of BC guides: *Aboriginal Disaster Resilience Planning* and *Rural Disaster Resilience Planning*
Hazard, Risk and Vulnerability Analysis http://www2.gov.bc.ca/gov/content/safety/emergency-preparedness-response-recovery/local-emergency-programs/hazard-risk-and-vulnerability-analysis	• Information on the purpose and importance of HRVA • Links to: o EMBC *Step-by-Step HRVA Toolkit* o EMBC *Online HRVA Tool*
Critical Infrastructure Assessment http://www2.gov.bc.ca/gov/content/safety/emergency-preparedness-response-recovery/local-emergency-programs/critical-infrastructure-assessment	• Link to the EMBC *Critical Infrastructure Rating Workbook,* which is designed to assist municipalities, industry, and communities in identifying and rating their CI assets within a defined area that may be at risk from a hazardous event
Program Self-Assessment http://www2.gov.bc.ca/gov/content/safety/emergency-preparedness-response-recovery/local-emergency-programs/program-self-assessment	Links to: • *Community Emergency Program Review* (CEPR), a web-based self-assessment tool designed to assist a community in determining its capacity to respond to and recover from emergencies/disasters • *10 Essentials for Making Communities Resilient* (a UN Toolkit for local governments)

SECTION and URL	WHAT YOU CAN FIND THERE
EOC Forms and Templates http://www2.gov.bc.ca/gov/content/safety/emergency-preparedness-response-recovery/local-emergency-programs/eoc-forms	Links to: • Samples of a wide variety of forms and templates used by local authority emergency operations centres during response and recovery • Justice Institute of BC online resource centre called *My EM Resources,* a portal for emergency management and public safety professionals from communities, agencies, and private businesses
Guidelines http://www2.gov.bc.ca/gov/content/safety/emergency-preparedness-response-recovery/local-emergency-programs/guidelines	Links to: • *Declaring a State of Local Emergency in British Columbia* (and associated forms and templates) • *Emergency Operations Centre Operational Guidelines* 2nd edition (and associated forms and templates) • *Evacuation Operational Guidelines* (and associated forms and templates) • *British Columbia Major Planned Events Guidelines* • *Financial Assistance for Emergency Response and Recovery Costs: A Guide for Local Authorities and First Nations* (and associated forms and templates) • *Community Disaster Recovery Guide* (and associated forms and templates)

Other sources

- Canadian Standards Association Z1600
  http://www.csagroup.org/documents/codes-and-standards/training/50038776.pdf
- Defence Research and Development Canada
  http://www.drdc-rddc.gc.ca/en/index.page
- The Great BC Shakeout
  http://shakeoutbc.ca/
- Justice Institute of BC Emergency Management Training
  http://www.jibc.ca/programs-courses/schools-departments/school-public-safety/emergency-management-division/about-emd
- Prepared BC
  http://www2.gov.bc.ca/gov/content/safety/emergency-preparedness-response-recovery/preparedbc
- Public Safety Canada
  https://www.publicsafety.gc.ca/index-eng.aspx

- U.S. Federal Emergency Management Agency (FEMA)
  http://www.fema.gov/

In addition, there are some excellent local authority websites that provide information on emergency preparedness.

Glossary

ACTION PLANNING

A means of capturing and communicating the overall incident response priorities in a concise and coherent way.

ACTIVATION

The act of initiating the emergency plan and different levels of support.

AFTER ACTION REVIEW (AAR)

A professional discussion of an event that focuses on performance standards and enables those involved in the event to review what happened and why, and discuss how to maintain identified strengths and address identified weaknesses. [Adapted from: Keyes, Jessica, *Enterprise 2.0: Social Networking Tools to Transform Your Organization,* CRC Press, 2012.]

ALL-HAZARDS APPROACH

An approach to emergency management that "increases efficiency by recognizing and integrating common elements across all hazard types, and then supplementing these common elements with hazard-specific sub-components to fill gaps only as required." [from *Emergency Management Training: The Core Participant Guide*]

BCEMS STEERING COMMITTEE (BSC)

A committee that reports to the IEPC and is responsible for the governance and maintenance of BCEMS.

BUSINESS CONTINUITY

An ongoing process supported by senior management and funded to ensure that the necessary steps are taken to determine the impact of potential losses and maintain viable recovery strategies, recovery plans, and continuity of services.

COMMAND FUNCTION

Under the ICS model, an incident commander and the command staff operating at the site level.

COMMUNICATION AND INFORMATION MANAGEMENT

An organized, integrated, and coordinated mechanism to ensure the accurate, consistent, and timely delivery of information to site level responders, assisting and cooperating agencies, site support personnel, and the public/stakeholders. This mechanism consists of the equipment, systems, and protocols for transferring information internally and externally as well as across jurisdictions/organizations.

COMMUNITY

Everyone who is or could be affected by an emergency/disaster. This includes all levels of government, agencies, not-for-profit organizations, businesses, and individuals.

COMMUNITY RESILIENCE CENTRE

A model that may be used to assist individuals through the recovery process. The community resilience centre provides the space for and coordination of the various agencies and groups offering guidance, advice, and assistance to those affected by an emergency/disaster. (Also known as community recovery office and/or community recovery centre)

CONTEXT

The circumstances in which an emergency/disaster may occur. It includes factors such as geographical location, population, and available funding, resources, and capabilities. These circumstances have an effect on the impact of the emergency/disaster and thus help determine the scope of the emergency plan, the range and types of activities the plan covers, and what can be expected of the target populations in terms of engagement and participation.

CONTINUITY OF OPERATIONS

The initiative that ensures that agencies are able to continue operating their essential functions under a broad range of circumstances, including all hazard emergencies and national security emergencies.

CRITICAL INFRASTRUCTURE

Assets that are essential for the functioning of government and society, namely, water, food, transportation, health, energy and utilities, safety, telecommunications and information technology, government, finance, and manufacturing.

CSA Z1600

A comprehensive standard for emergency management and business continuity programs developed by the Canadian Standards Association (CSA).

DEMOBILIZATION

The orderly, safe, and efficient return of an incident resource to its original location and status. This includes personnel, volunteers, facilities, equipment, supplies, and other resources.

DEPARTMENT OPERATIONS CENTRE (DOC)

Agencies that require unique functional support for their emergency activities may establish a DOC. A DOC is primarily concerned with supporting the emergency activities of the agency and ensuring that regular business activities continue. It can be established at the provincial, regional, or local level. For example, a local authority fire department may establish a DOC to respond to a specific emergency/disaster.

DISASTER

"A calamity that (a) is caused by accident, fire, explosion, or technical failure or by the forces of nature, and (b) has resulted in serious harm to the health, safety, or welfare of people, or in widespread damage to property." [*Emergency Program Act*]

DISASTER FINANCIAL ASSISTANCE (DFA) PROGRAM

A program administered by EMBC that provides financial assistance to those affected by a disaster in situations where the losses could not be insured or where other assistance programs are not available.

DISASTER RISK REDUCTION

Measures taken to decrease the potential for future losses arising from emergencies/disasters.

EMERGENCIES ACT

Federal legislation that identifies the federal government's responsibilities for public welfare emergencies, public order emergencies, international emergencies, and war.

EMERGENT VOLUNTEERS

Groups of people who come together as a result of an emergency/disaster to offer assistance in a particular area or for a particular task, and who are not yet formally affiliated with an incorporated organization.

EMERGENCY

"A present or imminent event or circumstance that (a) is caused by accident, fire, explosion, technical failure, or the forces of nature, and (b) requires prompt coordination of action or special regulation of persons or property to protect the health, safety, or welfare of a person or to limit damage to property." [*Emergency Program Act*]

EMERGENCY MANAGEMENT BC (EMBC)

The provincial government's lead coordinating agency for all emergency management and business continuity activities. It is responsible for reviewing BCEMS every four years to ensure that the system continues to reflect best practice and meet the needs in the field.

EMERGENCY MANAGEMENT PROGRAM

A specific department or group within an organization that assumes overall responsibility for emergency planning and facilitates the implementation of activities during each phase of the emergency management process.

EMERGENCY OPERATIONS CENTRE (EOC)

A facility where key personnel can gather to coordinate, plan, and manage overall response activities. It provides support to the site by facilitating long-term operations, providing centralized access to information, and assisting in the identification, prioritization, and allocation of resources.

EMERGENCY PLAN

A document that describes the actions that will be taken when an emergency/disaster occurs. It describes how people, property, and the environment will be protected in an emergency/disaster.

EMERGENCY PROGRAM ACT

Provincial legislation that provides a framework for emergency management in the province and requires the province and local authorities to develop emergency plans.

EMERGENCY PROGRAM COORDINATOR

The person responsible for the day-to-day management of an organization's emergency management program. May also be referred to as planner, manager, or director.

EMERGENCY PROGRAM MANAGEMENT REGULATION

Provincial regulation that describes the roles and responsibilities of the Provincial Emergency Program (PEP), Emergency Management British Columbia (EMBC), and government ministries and corporations in regard to emergency management planning at the provincial level.

EXERCISE, DISCUSSION-BASED

A facilitated discussion that allows participants to familiarize themselves with emergency plans and procedures, and explore their application in specific emergency scenarios. Examples include orientations/seminars, workshops, and tabletop exercises.

EXERCISE, OPERATIONS-BASED

An exercise that validates training, plans, and procedures through the actual deployment of personnel, equipment, and other resources. Examples include drills, functional exercises, and full-scale exercises.

EXERCISE PROGRAM

An organization's opportunity to enhance its emergency management operational readiness through structured and scheduled testing of its emergency plan. The exercise program helps ensure that the plan is workable and helps identify – before an emergency/disaster occurs – any implementation issues that must be resolved.

HAZARD

A source of potential harm, or a situation with a potential for causing harm, in terms of human injury; damage to health, property, the environment, and other things of value; or some combination of these.

HAZARD AND VULNERABILITY IDENTIFICATION

The process of recognizing that a hazard exists and defining its characteristics, and identifying current vulnerabilities in the community or organization.

HAZARD, RISK, AND VULNERABILITY ANALYSIS (HRVA)

An assessment of:

- Hazards: These are sources of potential harm, or situations with a potential for causing harm, in terms of human injury; damage to health, property, the environment, and other things of value; or some combination of these.
- Risk: This refers to the likelihood that a hazard will occur, as well as the severity of possible impact to health, property, the environment, or other things of value.
- Vulnerability: This refers to the people, property, infrastructure, industry, resources, or environments that are particularly exposed to adverse impact from a hazardous event.

HOUSING

In the context of the recovery phase, the permanent homes that people occupy.

IMPACT

The physical/environmental, social, economic, and political consequences or adverse effects that may occur as the result of a hazardous event.

INCIDENT COMMAND SYSTEM (ICS)

Originally developed as a fire response management system by various jurisdictions in the United States, this incident management system has been widely adopted by first responders and emergency management programs throughout North America.

INTER-AGENCY EMERGENCY PREPAREDNESS COUNCIL (IEPC)

Composed of representatives from provincial government ministries and Crown corporations, this council facilitates the coordination of the emergency plans and procedures that all government ministries are tasked to develop and set in place.

INTEROPERABILITY

The ability of emergency personnel to communicate between jurisdictions, disciplines, and levels of government, using a variety of systems as needed and authorized.

INTEROPERABILITY, FUNCTIONAL

Functional interoperability exists when users have the leadership and support, standard operating procedures, technology, training, and regular usage to enable predictable and consistent communication.

INTEROPERABILITY, TECHNICAL

Technical interoperability exists when two or more communications devices can send and receive information to and from each other.

LAND-USE PLANNING

The process by which lands are assessed so that informed decisions can be made regarding their use and development.

LOCAL AUTHORITY EMERGENCY MANAGEMENT REGULATION

Provincial regulation that outlines the legislated requirements for local authority emergency plans within the province and lists the specific components that must be included in a local authority's emergency plan.

LONG-TERM RECOVERY STRUCTURE

A recovery model that is supported by the Recovery Steering Committee under the direction of the recovery director and the policy group of the Recovery Operations Centre until such time that the Recovery Operations Centre is deactivated or demobilized.

MANAGEMENT FUNCTION

Under the ICS model, a director and the management staff operating at the site support level.

MITIGATION

The phase of emergency management in which proactive steps are taken to prevent a hazardous event from occurring by eliminating the hazard, or to reduce the potential impact of such an event before it occurs.

MITIGATION PLAN

A document that sets forth the long-term measures that a community or organization will take in order to eliminate hazards, thus preventing an emergency/disaster from occurring, or to reduce the effects of an emergency/disaster should one occur.

MUTUAL AID AGREEMENT

An agreement or contract between groups or agencies that defines the terms under which these parties agree to provide each other with assistance in an emergency/disaster. The agreement describes the services to be provided, insurance and liability arrangements, workers' compensation coverage for personnel, and compensation and reimbursement arrangements.

PREPAREDNESS

The phase of emergency management during which action is taken to ensure that individuals, businesses, and the jurisdiction/organization are ready to undertake emergency response and recovery.

PROVINCIAL CENTRAL COORDINATION LEVEL

The response level that prioritizes provincial government objectives and leads the overall provincial response. It also serves as the coordination and communication link with the other response levels and the federal disaster support system. Central coordination and provincial leadership are provided by the Provincial Emergency Coordination Centre (PECC).

PROVINCIAL COORDINATION TEAM (PCT)

A cross-government, multifunctional provincial team of experienced emergency managers and technical specialists who will be available on short notice to provide enhanced coordination support. The team is activated by the Assistant Deputy Minister, EMBC, and may be deployed to assist in a major emergency/disaster.

PROVINCIAL EARTHQUAKE RESPONSE AND RECOVERY CENTRE (PERRC)

An integrated centre that could include a PREOC, PECC, and other emergency operations centres all under one roof. The province may establish a PERRC when the scope and complexity of an earthquake and the scale of response require extensive cross-agency coordination and integration for an extended period of time.

PROVINCIAL REGIONAL COORDINATION LEVEL

The response level that provides and coordinates provincial support for local authorities and First Nations within designated regional boundaries. Support and coordination at this level are provided by a Provincial Regional Emergency Operations Centre (PREOC).

PSYCHOSOCIAL

Psychological and sociological aspects of the well-being of an individual, family group, organization, and/or community.

PSYCHOSOCIAL SERVICES

Efforts to provide, after a disaster, the necessary support for people to re-establish their ability to meet their emotional and psychological needs as well as those of others.

PUBLIC/STAKEHOLDER EDUCATION

Efforts geared towards empowering the members of a community or organization to understand risks and hazards, prepare themselves for an emergency/disaster, participate meaningfully in emergency management initiatives, and develop the skills they need to mitigate their personal risk.

RECOVERY

The phase of emergency management in which steps and processes are taken/ implemented to:

- Repair communities affected by a disaster
- Restore conditions to an acceptable level or, when feasible, improve them
- Restore self-sufficiency and increase resilience in individuals, families, organizations, and communities

RECOVERY OPERATIONS CENTRE (ROC)

A recovery model that provides continuity in the support and coordination of recovery activities.

RECOVERY STEERING COMMITTEE (RSC)

A multi-agency committee composed of senior representatives from key organizations. Its purpose is to focus on any recovery activity that can be managed through normal business practices.

RECOVERY UNIT

A unit established within the EOC, which focuses on completing response activities and initiating and managing short-term recovery activities.

REGIONAL EMERGENCY OPERATIONS CENTRE (REOC)

Local authorities or agencies may combine resources in an REOC. An REOC has the same function as an EOC, but allows for collaborative decision making, coordinated resource requests, and prioritization of scarce resources between local authorities during regional emergencies/disasters. An REOC can also coordinate public messaging.

RESOURCE MANAGEMENT

The coordination, oversight, and processes required to deliver appropriate resources in a timely manner.

RESOURCE PLANNING

Measures for ensuring that resources are available to be mobilized when called to an emergency/disaster, and that they are compatible and interoperable with one another.

RESOURCES

Equipment, supplies, personnel, volunteers, and facilities available for assignment or staging in support of emergency management activities.

RESPONSE

The phase of emergency management during which actions are taken in direct response to an imminent or occurring emergency/disaster in order to manage its consequences.

RISK

A concept that takes into consideration the likelihood that a hazard will occur, as well as the severity of possible impact to health, property, the environment, or other things of value.

RISK ACCEPTANCE

Doing nothing and accepting the risk. Risk acceptance is an explicit or implicit decision to accept the consequences of a given risk.

RISK ANALYSIS

The systematic use of information to estimate the chance and severity of injury or loss to people, property, the environment, or other things of value.

RISK AVOIDANCE

Effectively removing the exposure to a risk. With risk avoidance, a decision is made to completely remove the sources of a particular risk or remove oneself from a particular risk.

RISK CONTROL/REDUCTION/MITIGATION

Reducing the likelihood of a threat or hazard being experienced; reducing the likelihood that damage will result should the hazard or threat be experienced; or minimizing harm once a hazard or threat has been experienced.

RISK EVALUATION

The process by which a risk is examined in terms of a cost/benefit analysis and evaluated in terms of whether it is an "acceptable" risk based on the needs and concerns of stakeholders.

RISK TRANSFER

Shifting some or all of the risk to another entity, asset, system, network, or geographic area. Risk transfer may not reduce the overall likelihood of a particular threat or hazard being experienced but it should make the consequences easier to bear.

SCALABILITY

The ability to adapt to increasing demands.

SHELTER

In the context of the recovery phase, housing that is provided during the initial emergency response phase. It involves the shortest period of time, typically ranging from three to six months maximum.

SINGLE COMMAND

One person overseeing the emergency response and serving as the final decision-making authority.

SITE LEVEL

The response level that manages the tactical response to an emergency/disaster. It uses available resources to solve problems arising from the emergency/ disaster.

SITE SUPPORT LEVEL

The response level that supports and coordinates the overall emergency response activities within its geographical or functional jurisdiction. Can be provided by a Department Operations Centre (DOC)/Area Operation Centre/ Area Command Centre, an Emergency Operations Centre (EOC), or a Regional Emergency Operations Centre (REOC).

SITUATIONAL AWARENESS

Knowing what is going on and what has happened with respect to the current incident, what could go on in terms of future impact or outcomes, and what options exist in terms of response actions.

SPAN OF CONTROL

The number of resources or organizational elements that one supervisor manages. It is usually expressed as a ratio of supervisor to subordinates. ICS indicates that the optimum manageable span of control falls within a ratio of 1:3 to 1:7 (one supervisor for every three to seven subordinates).

TRANSITIONAL LODGING

In the context of the recovery phase, an interim service typically provided after the shelter stage and before the housing stage. The transitional lodging period could begin immediately after the initial response phase and may last for several months. (Note: The term "group lodging" refers to a functional element used for evacuees during the response phase.)

UNIFIED COMMAND

Two or more individuals sharing authority over an emergency/disaster in which multiple agencies or jurisdictions are involved.

VOLUNTEERS

People who offer their services without expecting financial compensation and are a critical component of emergency management.

VULNERABILITY

The people, property, infrastructure, industry, resources, or environments that are particularly exposed to adverse impact from a hazardous event.

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