

Chemical, Biological, Radiological, Nuclear and Explosives Resilience Strategy for Canada

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Government of Alberta ■



Manitoba ■



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**Chemical, Biological, Radiological,
Nuclear and Explosives
Resilience Strategy for Canada**

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Executive Summary

The threat of chemical, biological, radiological, nuclear and explosives (CBRNE) events is a global challenge. Terrorist attacks are increasingly focused on western interests and Canada has been specifically identified as a target by terrorist organizations. Canada is also at risk from domestic sources such as radicalized individuals, extremists and criminals. This threat, aggravated by the prevalence of potential CBRNE materials normally used for industrial and scientific purposes, requires coordinated action by many contributors.

In order to enhance and sustain Canada's resilience to CBRNE events, all levels of government within Canada have collaborated to develop the *Chemical, Biological, Radiological, Nuclear and Explosives Resilience Strategy for Canada* (hereafter referred to as "The Strategy"). Its purpose is to provide the policy framework that will guide the creation of sustainable capabilities and common standards in CBRNE policies, programs, equipment and training.

The Strategy promotes the vision of an integrated capability across Canada by framing a scalable, responsive, dynamic, sustainable and evidence-based approach for all contributors to CBRNE events. This approach is equally based on the Four Components of Emergency Management: prevention / mitigation, preparedness, response and recovery.

The Strategy is based upon five key strategic objectives that have been agreed upon as fundamental if Canada is to achieve sustainable resilience to the risks and threats of CBRNE events. They are:

1. **Leadership** - to guide coordinated policy and program development by all levels of government and contributors that will foster and promote CBRNE resilience;

2. **Risk Management** - to integrate CBRNE into a consistent all-hazards risk management approach, including robust hazard, vulnerability and risk assessment methodologies;
3. **Capability-based Planning** - to inform policy, program and investment decisions based on the principles of capability-based planning.
4. **Effective and Interoperable Workforce** - to build an effective and interoperable workforce that is supported by a modern, dynamic and responsive training infrastructure backed up by appropriate technologies; and
5. **Information and Knowledge Management** - to develop effective information, knowledge and intelligence managements systems and mechanisms across all jurisdictions and contributors.

An Action Plan, which is an integral part of this Strategy, sets out actions and timelines for CBRNE programs and activities over a five-year period. The Action Plan is based on the five strategic objectives. Efforts in support of the Action Plan identify and strengthen the capabilities across Canada to prevent / mitigate, prepare for, respond to, and recover from CBRNE events.

All levels of government will work collaboratively to monitor the implementation of the Strategy and Action Plan. Together, these efforts will enhance CBRNE resilience in Canada.

Strategic Context

The consequences of natural and human-induced hazards and disasters have become more widespread due to increasingly urbanized and globally-interconnected societies. The threat and risk posed by chemical, biological, radiological, nuclear and explosives (CBRNE)¹ events is a global challenge. As Canada operates within the international community, it is not

immune from world events which could have a profound effect on the Canadian economy, society, and way of life.

The terrorist events of the last decade changed perceptions and priorities with respect to international threats and risks. Terrorist attacks are increasingly focused on western interests and Canada has been specifically identified as a target by terrorist organizations.² Canada is also at risk from domestic extremists, radicalized individuals, and criminals.³

The prevalence of CBRNE materials in Canadian society for use by industry, in scientific research and medical diagnostics, among other purposes, creates a significant risk of diversion or exploitation by terrorists or criminals. Terrorists have used CBRNE materials in the past, and evidence indicates that they continue to be active in pursuing and acquiring such materials.⁴

Coordinated investments to improve Canada's activities in advance of, during, and after CBRNE events, based on risk assessments, are a key component of developing national resilience to such events. Resilience in the context of this Strategy refers to Canada's capacity to adapt to CBRNE hazards before, during, or after a CBRNE event in order to reach and maintain an acceptable level of functioning.⁵

International Partnerships

In today's complex global environment, Canada must invest in its relationships with international partners in order to facilitate the exchange of information and intelligence, enable mutual assistance and scientific cooperation, and counter the proliferation of CBRNE materials.

Participation in selected international fora, such as the United Nations (UN), the North Atlantic Treaty Organization (NATO), the Group of Eight (G8), the Quadrilateral Group on CBRN Counter-Terrorism, the Global Health Security Initiative (GHSI), Regional Emergency Management Advisory Councils and other bilateral and multi-lateral partnerships is essential to Canada's national security and global stability. NATO has developed a strategic level policy on CBRN⁶ which helps inform this Strategy and through it, Canadian activities.

The risk of proliferation of CBRNE materials further complicates the international security environment in which Canada operates. In recognition of the threat of terrorists gaining access to Cold War-era weapons and materials of mass destruction, the G8 launched the Global Partnership Against the Spread of Weapons and Materials of Mass Destruction under Canada's leadership. Canada also participated in the recently completed UN review of the Nuclear Non-Proliferation Treaty (NPT) and the Global Initiative to Combat Nuclear Terrorism. Additionally, Canada is a signatory to the Biological and Toxin Weapons Convention (BTWC), the Chemical Weapons Convention (CWC), is a signatory to

1 See definition of "CBRNE Event" in the Glossary.

2 Canadian Security Intelligence Service, April 2008. Available at <http://www.csis-scrs.gc.ca/prrts/trrrsm/xmpls-eng.asp>

3 *National Security Policy*, Government of Canada, April 2004.

4 For example, the Sarin gas attacks on the Tokyo Subway system by the Japanese cult Aum Shinrikyo in 1995 or the Anthrax letter attacks within the United States in 2001. For an example of a document referencing terrorist use of CBRNE materials, see the *Final Report of the National Commission on Terrorist Attacks upon the United States*, United States Government Printing House, July 2004.

5 See definition of "Resilience" in the Glossary.

6 NATO's *Comprehensive, Strategic-Level Policy for Preventing the Proliferation of Weapons of Mass Destruction (WMD) and Defending against Chemical, Biological, Radiological and Nuclear (CBRN) Threats*, September 2009.

the Convention on the Physical Protection of Nuclear Material, and supports the Code of Conduct on the Safety and Security of Radioactive Sources.

Canada is committed to complying with its international commitments on CBRNE and will continue to be a leader amongst its international partners in managing the global CBRNE threat.

Background

In 2005, the federal government released *The Chemical, Biological, Radiological and Nuclear Strategy of the Government of Canada*.⁷ This strategy served as important guidance towards fulfilling the federal government's responsibilities with respect to CBRN events. As most emergencies in Canada are local in nature and are managed at the municipal or provincial / territorial (P/T) level, the activities of those levels of government are integral to a national CBRNE strategy. Based on this foundation, the present national strategy expands on the 2005 federal strategy by including the responsibilities of all levels of government.

In 2007, a national roundtable on CBRNE terrorism brought together first responders, policy makers and Federal, Provincial, Territorial (F/P/T) government officials to discuss a comprehensive, coordinated, and national approach to dealing with CBRNE events.

As a result of this roundtable, the Senior Officials Responsible for Emergency Management (SOREM)⁸ created, in early 2008, an F/P/T sub-working group to assist in the development of a national CBRNE strategy.

Within this context, F/P/T governments have been working together to define a comprehensive and integrated Canadian framework that identifies and strengthens CBRNE capabilities and processes in the context of complex emergencies.

The CBRNE Research and Technology Initiative (CRTI), was launched by the federal government in 2002 as part of its security agenda. The CRTI program has proven to be an effective model for bringing together Canada's national science and technology (S&T), security, and consequence management communities and applying their collective knowledge and capabilities towards common goals. Through this collaborative, coordinated initiative, the federal S&T community and its partners are working to enhance Canada's capability and capacity to prevent, prepare for, respond to and recover from CBRNE events.

Purpose

The purpose of the *Chemical, Biological, Radiological, Nuclear and Explosives Resilience Strategy for Canada* (hereafter referred to as "The Strategy") is to provide the policy framework that guides the creation and maintenance of sustainable capabilities, common standards and steers investments in CBRNE policies, programs, equipment, and training in a common direction. This will take place in the context of complex emergencies, across the four components of emergency management:⁹

- Prevention / Mitigation
- Preparedness
- Response
- Recovery

7 The "Explosives" (E) component was not part of *The Chemical, Biological, Radiological and Nuclear Strategy of the Government of Canada*. See definition of "CBRNE" in the Glossary. The complete text of this strategy can be found at: <http://www.publicsafety.gc.ca/pol/em/cbrnstr-eng.aspx>

8 See definition of "SOREM" in the Glossary.

9 See definition of "Emergency Management" in the Glossary.

In order to be effective, efforts to build CBRNE resilience must span all four of these components in a comprehensive, balanced, and ongoing fashion. The Strategy recognizes that taking preventative actions in advance to address CBRNE threats and risks will help to prevent and reduce the effects of future CBRNE events.

The Strategy supports the vision of a comprehensive and integrated capability, across Canada, which ensures sustainable resilience to the threats, risks and potential consequences of CBRNE events. This vision was created collaboratively by F/P/T contributors in late 2008.

The Strategy frames a scalable, responsive, dynamic, sustainable and evidence-based approach for contributors¹⁰ to CBRNE events, which takes into account the changing nature of the threats, vulnerabilities, and the varying contributions and capabilities related to CBRNE events in Canada.

The Strategy enhances timely and effective decision-making through improving integration, coordination and interoperability amongst CBRNE contributors from plans, to standard operating procedures, to equipment and/or training. The Strategy is designed to work in conjunction with existing jurisdictions and mechanisms, such as the Federal Emergency Response Plan (FERP), the National Emergency Response System (NERS), the Federal Nuclear Emergency Plan (FNEP), the National Counter-Terrorism Plan, and F/P/T/M response plans. Provincial / territorial and regional response arrangements are also included.

The FERP is the key federal response plan. It outlines the processes and mechanisms to facilitate an integrated, "all-hazards" federal response to an emergency and to eliminate the need for individual departments to coordinate a wider Government of Canada regional or national response. The NERS is included as an annex to

the FERP, and articulates how provincial / territorial governments will link to the FERP, and how the federal government will support provincial and territorial emergency response when needed. Both of these documents provide guidance to all levels of government in dealing with the response to CBRNE events that exceeds local, regional, provincial, or territorial capacity or capabilities.

The Strategy recognizes Canada's integrated approach to dealing with the threat of domestic and international terrorism. This approach is based on four mutually reinforcing elements: prevent individuals from engaging in terrorism; detect the activities of individuals who may pose a terrorist threat; deny terrorists the means and opportunity to carry out their activities; and respond proportionately, rapidly and in an organized manner to terrorist activities and mitigate their effects. These security-focused activities form an integral part of the wider all-hazards emergency management approach based on the Four Components of Emergency Management.

Observations

Diversity: Based on capabilities, capacities and priorities, the actions taken may vary from one jurisdiction to another. While the Strategy assumes a base level of consistency and commonality in jurisdictional actions, specific solutions that are appropriate in one jurisdiction may not be applicable or appropriate in another.

Authority: In the event of a complex CBRNE event in Canada, there is no single agency at any level of government that has the required authority and expertise to act unilaterally. In many cases, a CBRNE

¹⁰ See definition of "Contributors" in the Glossary.

event will cross jurisdictions and will require regional or national coordination amongst contributors in addition to a well-defined transition between security measures and consequence management measures.

Time and Space: Risks, circumstances, and consequences of CBRNE events vary geographically and over time. A CBRNE event may produce major consequences that could quickly overwhelm response capabilities, particularly if multiple locations are affected; or if impacts are progressive or prolonged. Such an event can have implications on national security, public safety, public confidence, the economy, the environment, and international relations.

CBRNE and Hazardous Materials: The Strategy recognizes the integral relationship between hazardous materials response (HazMat) and CBRNE response that has been established over time. Resources and assets applied to the management of CBRNE events are made up, in part, by personnel and equipment used for HazMat events. HazMat is one of the core capabilities required to respond to CBRNE events, and is therefore reflected in this Strategy.

Governance

Scope

The Strategy provides guidance to all who would be called upon to prevent / mitigate, prepare for, respond to and recover from complex CBRNE emergencies. It recognizes that there are differences in the specific roles and tools used in particular circumstances by all contributors. Contributors include all levels of government; first responders; first receivers; healthcare and public health professionals; hospitals; coroners; the

intelligence community; specialized resources, including scientific and Urban Search and Rescue (USAR) resources; the military; law enforcement agencies; non-governmental agencies; private sector contributors and the academic community. All of these contributors are expected to work collaboratively to implement the Strategy in a comprehensive and cost-effective manner, and where applicable, leverage existing programs and initiatives.

The Strategy recognizes that there are shared responsibilities and contributions across various levels of Government, sectors and specializations for CBRNE. The Strategy respects each government's jurisdiction and legal frameworks, and does not derogate from this authority. Contributors are encouraged to develop and coordinate their own strategies and action plans to implement this Strategy, but may take action on this Strategy directly in the absence of jurisdictional strategies or plans. In this way, jurisdictional CBRNE strategies, action plans and activities contribute to building national CBRNE resilience in an integrated fashion.

This Strategy does not intend to be prescriptive or to set any priority order across those areas of shared responsibility. Nevertheless, it is crucial to the success of this Strategy that each jurisdiction ensures that the requisite sharing of information, consultation, and determination of specific roles, responsibilities and contributions is undertaken.

Emergency management is a shared responsibility and a component of a sustainable, prosperous and disaster-resilient society. The Strategy is predicated upon the principles outlined in *An Emergency Management Framework for Canada*.¹¹ This Framework was approved by F/P/T Ministers Responsible for Emergency

¹¹ The complete text of the Framework can be found at: <http://www.publicsafety.gc.ca/prg/em/emfrmwrk-eng.aspx>

Management to guide and strengthen the way governments work together to protect the safety and security of all Canadians. These principles reflect the essence of emergency management in Canada and frame the key underlying beliefs and goals of emergency management. They aim to support the design, implementation and ongoing improvement of frameworks, programs, procedures, guidelines and activities, which taken together comprise the emergency management systems of Canada.

Accountability

It is the responsibility of SOREM to ensure the overall implementation of the Strategy on behalf of the Deputy Ministers and Ministers Responsible for Emergency Management.

This Strategy recognizes that the SOREM lead for each jurisdiction is responsible for ensuring that other areas of core capability (generally categorized as those involving fire services, environment, public safety, specialized scientific community, public health, emergency health and emergency medical services, military and defense, security intelligence and law enforcement) are consulted and engaged, and their roles, responsibilities and capabilities are recognized through the implementation of the Strategy as required.

The SOREM CBRNE Sub-Working Group supports the Strategy's implementation through monitoring of the action plan and by undertaking initiatives within the plan to enhance cross-sectoral coordination on CBRNE issues. Each member of the CBRNE Sub-Working Group is responsible for engaging and informing their respective, jurisdiction-specific constituents as the Strategy is implemented. Public Safety Canada provides

Secretariat services for the CBRNE Sub-Working Group. The governance of the Strategy by these various bodies is outlined in *Figure 1*.

To support an incremental approach and inform leaders in the decision-making process, the CBRNE Sub-Working Group, on a yearly basis, recommends to SOREM a list of tasks to be addressed from the Action Plan. SOREM will approve those tasks to be completed, as well as identify the lead organization for each task.

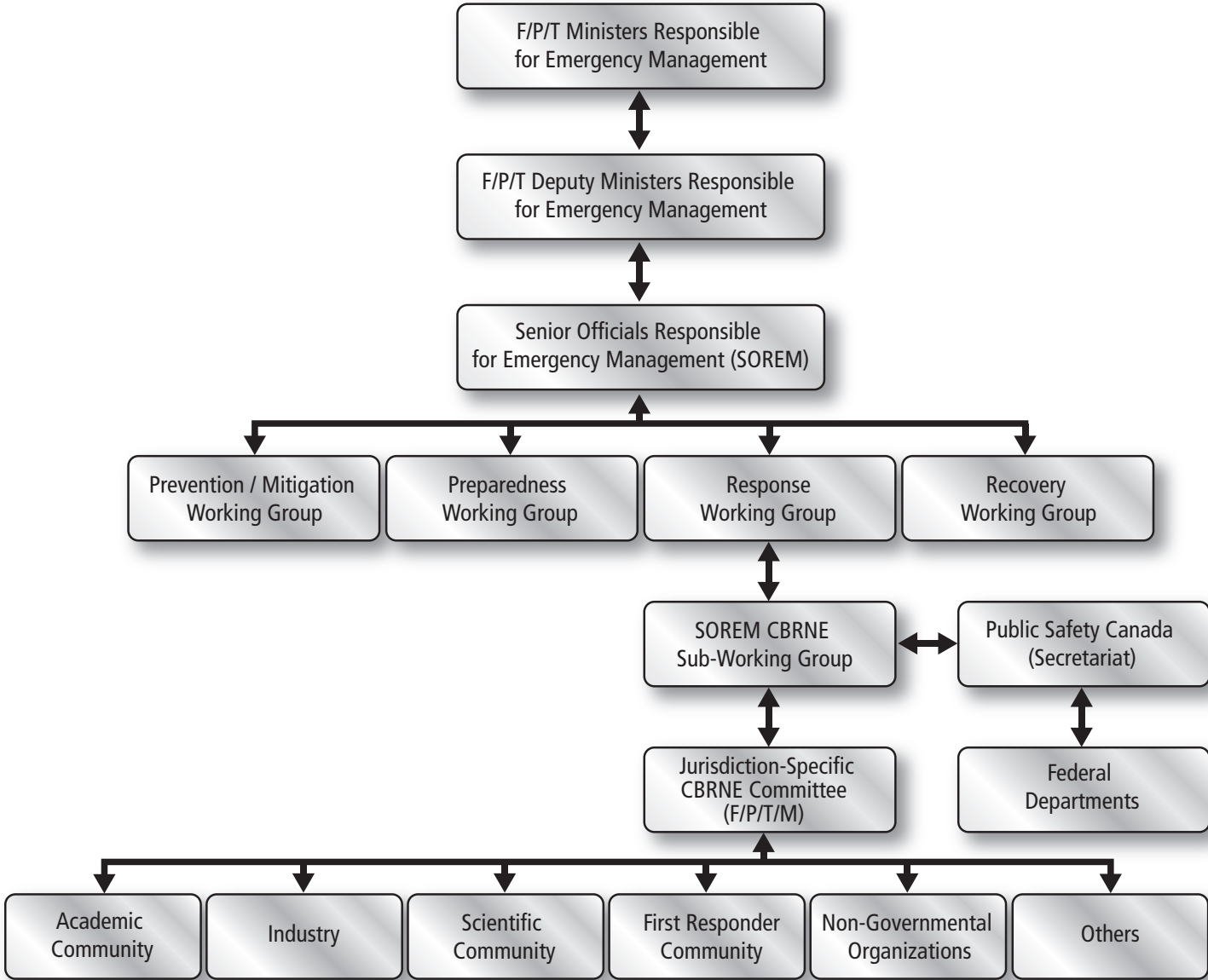
The Action Plan encourages and guides the development of jurisdiction-specific CBRNE action plans. These jurisdictional action plans are complementary to the national Action Plan. Public Safety Canada is accountable for coordinating the activities of federal departments and agencies in support of this Strategy.

CBRNE resilience in Canada is enhanced through all levels of government working together. It is expected that the collaborative approach established in the Strategy remains evergreen and strengthens coherency of action among all levels of government and contributors.

Governments and contributors to the Strategy need to be resilient and have competent, robust business continuity plans to the extent practicable. Aligning CBRNE planning with business continuity planning ensures the continued availability of critical services and assets during the response to and recovery from CBRNE events.

Governments and contributors to the Strategy recognize the relevance and applicability of cooperative agreements, commitments and conventions that may be in place between the various governments, across jurisdictions and internationally.

Figure 1: Governance of the Strategy and Action Plan



Strategic Objectives

Federal / provincial / territorial contributors identified five strategic objectives as fundamental to developing Canadian resilience to CBRNE events. These objectives are to be interpreted as comprehensive and balanced across all four components of Emergency Management, and must be integrated in an ongoing fashion. Through

these objectives, existing plans, programs, and initiatives are leveraged, and new ones coordinated. Efforts to realize these strategic objectives will assist contributors in achieving long term resilient and sustainable capability with respect to CBRNE.

1. Provide leadership for coordinated policy and program development

Contributors have recognized the need to clarify and strengthen leadership roles, and to coordinate contributions, in the development of CBRNE policies and programs. As investments in CBRNE fluctuate in response to changing risk, a clear understanding of the roles, responsibilities and contributions is necessary with respect to:

- each type of CBRNE event, whether it is chemical, biological, radiological, nuclear, and/or explosives in nature;
- each phase of an event, from pre-event national security and mitigation activities, to post-event investigation, consequence management and recovery activities;
- each contributor, including all levels of government, industry, and the academic and scientific communities.

The relationships between various levels of government, and with international partners need to be confirmed, and in some cases, developed.

Clearly defined roles, responsibilities and contributions, appropriate representation, and the networking of contributors with their colleagues will guide the development and sustainment of CBRNE policies and programs. In this way, contributors are coordinated, optimizing their impact, thereby fostering and promoting CBRNE resilience.

2. Integrate CBRNE into an all-hazards risk management approach

Policy and program decisions with respect to CBRNE should be made in the context of a wider all-hazards risk management approach. In a complex, modern society, there are numerous potential sources of risk, many of which vary over space and over time. The risk posed by CBRNE must be evaluated together with the risk posed by other hazards, be they human-induced or natural. Risks may be current or emerging. Robust hazard, vulnerability and risk assessment methodologies must be used to generate a coherent understanding of the risks for all hazards, including CBRNE.

Once the risks from all sources are clearly understood, capability-based planning can be used to reduce the risk for CBRNE. This robust approach to risk management will ensure that CBRNE policy and program decisions are evidence-based, which increases resilience through targeting limited resources to areas of highest priority.

3. Use capability-based planning to inform policy, program and investment decisions

Capability-based planning is a structured planning process that informs policy and program decisions, including investment decisions. It has three fundamental components:

- a sound understanding of the threats and hazards;
- a robust risk assessment of those threats and hazards (imminent as well as emerging); and
- determining capability needs through a repeatable and thorough capability analysis process.

¹² See definition of "Interoperability" in the Glossary.

By recognizing and applying the principles of capability-based planning, contributors will develop a scalable, optimal, and sustainable multi-agency CBRNE capability that respects jurisdictional authorities.

The outcomes of capability-based planning, which include effective planning, integrated concepts of operation and functional interoperability, are key components of CBRNE resilience.

4. Build an effective and interoperable workforce

An effective workforce must be developed, resourced, and sustained in order to contribute to CBRNE resilience. It is this workforce which will undertake the prevention/mitigation, preparedness, response and recovery activities required to effectively address CBRNE threats.

Interoperability¹² is one of the key characteristics of an effective workforce. A workforce must achieve interoperability horizontally across training, tools, equipment, technology, and procedures. These are the elements to creating technical and operational / functional interoperability, both of which are required.

People are the core of the effective workforce. They must be developed and supported by a modern, dynamic and responsive training infrastructure, according to their specialized roles, responsibilities, and contributions.

Access to appropriate tools and equipment, according to capability levels, is also required. This includes adopting new technologies where appropriate.

Consistent and interoperable procedures and plans, such as integrated Concepts of Operation, must be developed and used.

Together, effective and interoperable people, tools, equipment, technology and procedures ensure that the desired level of resilience is reached.

In light of the special characteristics which define CBRNE, such as the criminal or terrorist nature of the event, the risk of responders being specifically targeted, and the hazards associated with a response, a priority focus on safety is critical for the workforce to contribute fully to CBRNE resilience.

5. Optimize information and knowledge management

Effective information and knowledge management are essential to developing CBRNE resilience. To facilitate this, systems and mechanisms must be confirmed or created. These systems must address the needs of all contributors, from the exchange of intelligence in a secure and timely fashion, to expert reach-back for first responders during a CBRNE event.

The implications of a CBRNE event on society could be far-reaching. For example, detonation of a radiological dispersal device (such as a "dirty bomb") could contaminate large sections of a city, with tremendous impact not only on the local economy and environment, but also on the perceptions of safety and confidence held by the public. Developing community-level preparedness, including building and maintaining public confidence with respect to CBRNE, are important aspects of community-level resilience. Recovery strategies are needed to address the potentially far-reaching psycho-social implications of a CBRNE event.

These systems and strategies will increase coordination, reduce duplication, and ensure effective communication. Through information and knowledge management, both contributors and the public will be informed to the

greatest possible extent, allowing them to take appropriate action as events require. This builds the resilience of society as a whole against CBRNE.

Implementation

While the Strategy provides a strategic policy framework for all levels of government, it does not attempt to catalogue and assign all responsibilities and actions required. Implementation of the Strategy and specific responsibilities are described in the Action Plan, which forms the basis for resource allocation by respective organizations.

The Action Plan, which is an integral part of the Strategy, sets out actions and timelines for CBRNE programs and activities over a five-year period. The Action Plan is based on the five strategic objectives identified in this Strategy as being core to developing CBRNE resilience.

All levels of government work to form, understand, implement and exercise the Action Plan. Efforts in support of the Action Plan identify and strengthen the capabilities across Canada to prevent / mitigate, prepare for, respond to, and recover from CBRNE events.

To be effective, the Strategy must be backed by appropriate commitment, adequate plans, arrangements, instruments and capabilities at all levels of government and by all contributors, which are exercised regularly. Plans must recognize the multi-jurisdictional nature of CBRNE events and seek an appropriate level of coordination.

The success of the Strategy will be measured by the deliverables and timelines described in the Action Plan. The Strategy is successful when the performance indicators set out in the Action Plan are met. Going forward, future investment in CBRNE in Canada must support the Strategy and further the items identified in the Action Plan.

An ongoing and coordinated interagency communications plan will convey achievement on the Strategy, toward enhancing awareness and bolstering public confidence with respect to CBRNE threats and risks.

Review

All levels of government are working together to monitor the implementation of the Strategy and support the assessment of programs and activities targeted at enhancing CBRNE resilience in Canada. It is expected that the collaborative approach established in the Strategy will remain evergreen and strengthen coherency of action among all levels of government and contributors.

The Strategy will be reviewed and revised every five years, or more frequently if necessary. The Action Plan will be reviewed and updated at least annually as approved by SOREM.

Glossary

All-Hazards Approach

An approach that recognizes that the actions required to mitigate the effects of emergencies are essentially the same, irrespective of the nature of the event, thereby permitting an optimization of scarce planning, response and support resources. The intention of all-hazards generic planning is to employ generic methodologies, modified as necessary by particular circumstances.

All hazards incorporates natural and man-made hazards and threats, including traditional emergency management events such as flooding and industrial accidents; as well as national security events such as acts of terrorism; and cyber events. (Source: *Federal Emergency Management Response Plan, 2009*)

Capabilities-Based Planning

An approach involved in planning, prioritizing and choosing response capabilities that are flexible and interchangeable, based on a detailed assessment of identified threats and risks. Capabilities-Based Planning answers the following question: *Do we have the right mix of training, organizations, plans, people, leadership and management, equipment, and facilities to perform a required emergency task?*

Chemical, Biological, Radiological and Nuclear (CBRN)

See **CBRNE** below.

Chemical, Biological, Radiological, Nuclear and Explosives (CBRNE)

The expansion of the term CBRN to incorporate certain high-yield explosives (E) into the broader term CBRNE signifies the new reality of this threat due to the weaponization of hazardous and dangerous goods. For the purposes of this Strategy, the term CBRNE has been adopted as it represents the science and practice worldwide in the current threat environment. See **CBRNE Event** below.

CBRNE Event

A CBRNE event involves a potential, perceived, or actual act with chemical, biological, radiological, nuclear, or explosive materials that are, or are suspected to be, used in a deliberate or intentional way to cause harm. These acts are considered criminal acts and are often acts of terrorism, as defined by the *Criminal Code of Canada* and the *Security Offences Act*. CBRNE events have additional dimensions that will complicate all aspects of emergency management. They are intended to maximize fear and disruption and may have elements designed to direct harm at first responders and first receivers, which in the case of specialists may have significant consequences on the capability to deal with the event itself. Further, deliberate acts will require the event scenes, which may be large and dispersed, to be managed as potential crime scenes, which creates specialized challenges in already complicated situations.

In most instances, in the absence of clear evidence to suggest an intentional event, the response to a CBRNE event commences as a HazMat response. HazMat is a core capability that is required to respond to a CBRNE event, along with other capabilities (such as investigation and tactical Emergency Medical Services).

CBRNE Materials

Chemical, biological, radiological, nuclear material or certain explosives used deliberately or intentionally by terrorists or criminals to cause harm.

Complex Emergencies

Emergencies rendered unusually complex due to one or more of the following types of factors: multi-agency or multi-jurisdictional response; duration; complexity with respect to the type of event; simultaneous events; severity of damage; heavy loss of life; requirement for specialized resources; limitation of available and trained resources; potential criminal or terrorist acts; potential of indiscriminate targeting; and potential of responders being targeted, etc.

Concept of Operations

A concise description of how an organization is to operate in order to achieve specific goals. (Source: *Emergency and Crisis Communication Vocabulary, Terminology Bulletin 252, 2003*)

Contributors

Contributors include all levels of government; first responders; first receivers; healthcare and public health professionals; hospitals; coroners, the intelligence community; specialized resources, including scientific and Urban Search and Rescue (USAR) resources; the military; law-enforcement agencies; non-governmental agencies; private sector contributors, and the academic community.

Disaster

Essentially a social phenomenon that results when a hazard intersects with a vulnerable community in a way that exceeds or overwhelms the community's ability to cope and may cause serious harm to the safety, health, welfare, property or environment of people; may be triggered by a naturally occurring phenomenon which has its origins within the geophysical or biological environment or by human action or error, whether malicious or unintentional, including technological failures, accidents and terrorist acts. (Source: *An Emergency Management Framework for Canada, 2011*)

Domestic

Of, or relating to, a country's internal affairs.

Emergency

A present or imminent event that requires prompt coordination of actions concerning persons or property to protect the health, safety or welfare of people, or to limit damage to property or the environment. (Source: *An Emergency Management Framework for Canada, 2011*)

Emergency Management

The management of emergencies concerning all-hazards, including all activities and risk management measures related to prevention / mitigation, preparedness, response and recovery. Frequently this set of related activities is referred to as the Four Components of Emergency Management. Emergency management is a shared responsibility that builds a sustainable, prosperous and disaster-resilient society.

The Four Components of Emergency Management are:

1. **Prevention/Mitigation:** to eliminate or reduce the risks of disasters in order to protect lives, property, the environment, and reduce economic disruption. Prevention/mitigation includes structural mitigative measures (e.g. construction of floodways and dykes) and non-structural mitigative measures (e.g. building codes, land-use planning, and insurance incentives). Prevention and mitigation may be considered independently or one may include the other.
2. **Preparedness:** to be ready to respond to a disaster and manage its consequences through measures taken prior to an event (for example emergency response plans, mutual assistance agreements, resource inventories and training, equipment and exercise programs);
3. **Response:** to act during or immediately before or after a disaster to manage its consequences through, for example, emergency public communication, search and rescue, emergency medical assistance and evacuation to minimize suffering and losses associated with disasters; and
4. **Recovery:** to repair or restore conditions to an acceptable level through measures taken after a disaster, for example return of evacuees, trauma counseling, reconstruction, economic impact studies and financial assistance. There is a strong relationship between long-term sustainable recovery and prevention and mitigation of future disasters. Recovery efforts should be conducted with a view towards disaster risk reduction. (Source: *An Emergency Management Framework for Canada, 2011*)

First Receiver

A health care worker that assists the victims of a CBRNE event (including contagious individuals) after a potential exposure, but prior to their admission to a hospital. Note: This assistance will usually be given at the first receiver's normal place of work (less often at the scene of the CBRNE event). (Source: *CGSB-205.1/ CSA Z1610 Protection of First Responders from Chemical, Biological, Radiological, and Nuclear (CBRN) Events*)

First Responder

A trained and officially mandated responder involved in a response to a CBRNE event. Notes: (1) First receivers could relocate in order to act as first responders. (2) Examples of first responders are police, firefighters, and emergency medical service personnel. (Source: *CGSB-205.1/ CSA Z1610 Protection of First Responders from Chemical, Biological, Radiological, and Nuclear (CBRN) Events*)

Hazard

A potentially damaging physical event, phenomenon or human activity that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation. (Source: *An Emergency Management Framework for Canada, 2011*)

HazMat / Hazardous Materials (Dangerous Goods)

Any substance, or mixture of substances, having properties capable of harming people, property, or the environment (Source: *Emergency and Crisis Communication Vocabulary, Terminology Bulletin 252, 2003*)

HazMat Event

A HazMat event refers to an event caused by human error or natural or technological reasons. This could include spills, accidental releases or leakages. These are generally referred to as Dangerous Goods (DG) or Hazardous Materials (HazMat) events. An event involving hazardous materials can occur by accident, negligence or subsequent to a natural occurrence, such as violent weather, or seismic activity. HazMat events are accidental, yet due to their nature require a very precise and specialized response. A HazMat response capability is a core capability required to respond to CBRNE events.

Interoperability

Interoperability is both operational / functional and technical.

Operational / functional interoperability is the ability to work together effectively. Specifically, it is the ability of different jurisdictions or disciplines to provide services to and accept services from other jurisdictions or disciplines in a coordinated manner, and to use those services to operate more effectively together at an emergency. From a practical perspective, operational interoperability means that personnel from different jurisdictions or services perform as a team under a common command-and-control structure.

Technical interoperability is the ability to communicate and exchange information and to integrate equipment and technical capabilities. It is the ability of systems to provide dynamic interactive information and data exchange among command, control, and communications elements for planning, coordinating, integrating, and executing response operations.

Local

Of, or relating to, a city, town, district, or community.

Non-governmental organization

A non-profit organization based on the interests of its members (i.e., individuals or institutions). It is not created by a government, but it may work cooperatively with government. Such organizations serve a public purpose, not a private benefit. Examples of non-governmental organizations include faith-based charity organizations and the Canadian Red Cross. *(Source: Federal Emergency Management Response Plan, 2009)*

Resilience

The capacity of a system, community or society to adapt to disturbances resulting from hazards by persevering, recuperating or changing to reach and maintain an acceptable level of functioning. Resilient capacity is built through a process of empowering citizens, responders, organizations, communities, governments, systems and society overall to share the responsibility to keep hazards from becoming disasters. Resilience minimizes vulnerability, dependence and susceptibility by creating or strengthening social and physical capacity in the human and built-environment to cope with, adapt to, respond to, and recover and learn from disasters. *(Source: An Emergency Management Framework for Canada, 2011)*

Risk

The combination of the likelihood and the consequence of a specified hazard being realized; refers to the vulnerability, proximity or exposure to hazards, which affects the likelihood of adverse impact. *(Source: An Emergency Management Framework for Canada, 2011)*

Risk-Based

The concept that sound emergency management decision-making is based on an understanding and evaluation of hazards, risks and vulnerabilities. *(Source: An Emergency Management Framework for Canada, 2011)*

Risk Management

The use of policies, practices and resources to analyze, assess and control risks to health, safety, environment and the economy. *(Source: An Emergency Management Framework for Canada, 2011)*

Sustainable

A sustainable approach is one that meets the needs of the present without compromising the ability of future generations to meet their own needs. *(Source: An Emergency Management Framework for Canada, 2011)*

SOREM

Senior Officials Responsible for Emergency Management. SOREM is a committee comprised of senior officials responsible for emergency management who represent the federal, provincial, and territorial governments. The committee provides guidance and advice on enhancing emergency management in Canada through initiatives which are reflective of the Four Components of Emergency Management: prevention / mitigation, preparedness, response and recovery. The committee's initiatives are supported by various working groups and sub-working groups.

Terrorism

The definition of "terrorist activity" as set out in section 83.01(1) (a) and (b) of the *Criminal Code of Canada*.

Threat

The presence of a hazard and an exposure pathway; threats may be natural or human-induced, either accidental or intentional. (Source: *An Emergency Management Framework for Canada, 2011*)

Vulnerability

The conditions determined by physical, social, economic and environmental factors or processes, which increase the susceptibility of a community to the impact of hazards. It is a measure of how well prepared and equipped a community is to minimize the impact of or cope with hazards. (Source: *An Emergency Management Framework for Canada, 2011*)

Acronyms

BTWC	Biological and Toxin Weapons Conventions
CBRN	Chemical, Biological, Radiological and Nuclear
CBRNE	Chemical, Biological, Radiological, Nuclear and Explosives
CRTI	CBRNE Research and Technology Initiative
CWC	Chemical Weapons Convention
EMS	Emergency Medical Services
F/P/T/M	Federal, Provincial, Territorial, Municipal
FERP	Federal Emergency Response Plan
FNEP	Federal Nuclear Emergency Plan
G8	Group of Eight
GHSI	Global Health Security Initiative
HazMat	Hazardous Materials
NATO	North Atlantic Treaty Organization
NCTP	National Counter-Terrorism Plan
NERS	National Emergency Response System
NPT	Nuclear Non-Proliferation Treaty
S&T	Science and Technology
SOREM	Senior Officials Responsible for Emergency Management
UN	United Nations
USAR	Urban Search and Rescue
WMD	Weapons of Mass Destruction