Responding to CBRN Threats: A Federal Perspective

Public safety and security is one of the Government of Canada's top priorities. That's why Budget 2001 dedicated $7.7 billion to public security. Of that amount, more than half a billion dollars was allocated to strengthen Canada's preparedness to prevent and respond to chemical, biological, radiological, and nuclear (CBRN) threats. This includes funding for equipment and training for first responders.

There is no specific threat of a CBRN attack against Canada and the overall threat continues to be assessed as low. However, because the consequences of a CBRN incident could be high, it is critical that we are prepared. Canada – along with many like-minded states – is bolstering its response capabilities. And by so doing, Canada will also be improving its response to all types of emergencies, such as industrial accidents, hazardous materials spills, and natural disasters.

Potential CBRN weapons encompass a range of agents:

- Biological (such as smallpox, anthrax and plague);
- Chemical (disseminated with explosives or aerosols);
- Radiological/nuclear (such as a so-called "dirty" bomb that uses conventional explosives to scatter radioactive material)

These weapons present a unique challenge. For example, bio-weapons may be covertly deployed, create no apparent crime scene, and remain undetected for several days or longer.

There are very few actual cases of terrorists attempting to cause mass civilian casualties using CBRN agents. Unsubstantiated threats or hoaxes are far more common. Yet given the difficulty in distinguishing a mere hoax from the real thing, threats alone can be extremely disruptive and costly. In the face of a credible hoax, there is no option but to respond as if to a real event, with all the consequent demands on resources.

Responsibilities for Canada's Emergency Preparedness

The Government of Canada provides leadership in improving emergency preparedness in Canada. It works closely with the provinces and territories to ensure consistent standards of emergency services across Canada and to ensure a national capability for responding to all types of emergencies.

The federal government's responsibilities for emergency preparedness are set out in the *Emergencies Act* (1988), the *Emergency Preparedness Act* (1988), and the *Federal Policy for Emergencies* (updated in 1995). A number of national plans are in place to protect the public and to guide the federal response to emergencies.

As with other types of emergencies, responsibility for CBRN incident response is shared by federal, provincial, and municipal governments. Civil emergencies are initially dealt with by first responders – police, fire fighters, and emergency medical personnel. If additional assistance is required, local officials contact the province or territory, who in turn can seek assistance from the federal government.

In practice, it can take just a few minutes for the response to move from the local to national

level – identifying and triggering the right resources and expertise. Managing the federal role is OCIPEP, which has close operational links with provincial/territorial and local emergency authorities and maintains inventories of resources and experts in various fields.

In the event of a terrorist incident, the Government of Canada and the RCMP, from an operational perspective, are primarily responsible for crisis management – measures such as law enforcement, intelligence, surveillance, negotiation, and investigation. The RCMP is assisted by provincial/territorial and municipal police, who are responsible for maintaining public safety within provincial/territorial borders, and other first responders.

Provincial and territorial governments, together with municipalities, bear primary responsibility for consequence management – the essential services required to manage and mitigate problems stemming from emergencies, such as fire-fighting, mass care, health and medical services, and urban search and rescue.

Many government departments and agencies are working together to coordinate the federal response, including:

- Canada Customs and Revenue Agency (CCRA)
- Canadian Food Inspection Agency (CFIA)
- Canadian Nuclear Safety Commission (CNSC)
- Canadian Security Intelligence Service (CSIS)
- Defence R&D Canada (DRDC)
- Department of Foreign Affairs and International Trade (DFAIT)
- Department of National Defence (DND)
- Health Canada
- Office of Critical Infrastructure Protection and Emergency Preparedness (OCIPEP)
- Royal Canadian Mounted Police (RCMP)
- Solicitor General Canada

A Comprehensive Strategy

While strong response and recovery capabilities are essential, the best defence from CBRN threats is to prevent the incident from occurring in the first place or at least lessen its impact. A range of proactive measures such as domestic and international collaboration, security and intelligence, surveillance, and training is required.

International Collaboration:

Effective response to CBRN terrorism depends on cooperation and coordination between all levels of government, response organizations and international partners. Canada works closely with the U.S. to ensure a coordinated response should a CBRN attack have a cross-border impact. To facilitate such cooperation, our two countries have a memorandum of understanding with guidelines to respond to a CBRN attack.

Canada is also party to international treaties, such as the Nuclear Non-Proliferation Treaty, the Chemical Weapons Convention, and the Biological and Toxin Weapons Convention. These treaties are key international mechanisms to help curb the proliferation of weapons of mass destruction. These agreements complement a range of activities to strengthen our response to CBRN threats such as:

- The launch of the *Global Partnership Against the Spread of Weapons and Materials of Mass Destruction* by Canada and its G8 partners;
- A "best practices" document for responding to CBRN attacks, produced by Canada to share our expertise within and outside the G8;

- Endorsement by the G8 of six principles, developed by Canada, relating to reinforcing non-proliferation treaties, improving security surrounding weapons of mass destruction (WMD) materials, reducing overall quantities in existence, and strengthening border and export controls

Security & Intelligence:

Government departments and agencies, such as CSIS, the RCMP, and DND, perform intelligence work to track terrorist interest in CBRN weapons, assess their potential impact, and if necessary, to pre-empt such attacks.

CSIS plays a key role in identifying attempts to acquire Canadian technology, materials, and expertise that could be used to develop weapons of mass destruction. CSIS works closely with federal departments and agencies domestically and internationally with either an enforcement role or the expertise to give a comprehensive assessment of the proliferation threat. It also works with public and private organizations to raise awareness of the threat posed to Canada by foreign governments and terrorist organizations interested in acquiring weapons of mass destruction.

Surveillance:

Speed is of the essence when responding to CBRN terrorism. Surveillance is particularly critical in the event of a covert biological release. With a bio-weapon, the release of the agent may not be discovered until days, or even weeks, later. Rapid detection of an outbreak relies on well-trained and vigilant public health practitioners who detect the event and report it to their response partners.

To deal with this type of threat, be it covert or otherwise, Health Canada conducts a number of programs for emergency responders in collaboration with other federal, provincial and territorial partners. Training covers topics such recognition of biological agents; containment; handling suspicious packages; and recognizing people at border points who may be exhibiting signs of exposure to biological or chemical agents.

Surveillance of radiological threats is undertaken by a number of departments and agencies, including Health Canada's Radiation Protection Bureau. The bureau provides surveillance, notification and implementation for the Federal Nuclear Emergency Plan in response to radio-nuclear emergencies. It operates a radioactivity monitoring network for testing radiation levels in the air, water and food; participates in global radiation surveillance activities in compliance with the Comprehensive Nuclear Test-Ban Treaty; and conducts "real-time" surveillance for radioactive materials in strategic locations such as airports and embassies.

Health Security:

Budget 2001 provided more than $100 M over six years for health security. An additional $48M of this was provided to implement a national smallpox contingency strategy including updating the department's National Smallpox Contingency Plan (NSCP) in collaboration with its provincial/territorial partners.

The Global Public Health Intelligence Network (GPHIN) is a unique early warning system developed by Health Canada in partnership with the World Health Organization. GPHIN gathers global media reports on significant public health events and provides the information on a "real time," 24/7 basis.

Health Canada also maintains a $330M National Emergency Stockpile System, which houses a recently expanded stock of pharmaceutical and medical supplies. The supply is contained in warehouses across the country, ready for rapid

deployment to provinces and territories upon request.

A Canada-wide network of laboratories established in 2001 allows quick testing and identification of bio-terrorism specimens. Its hub laboratory, located in Winnipeg, is one of a small number of Level 4 laboratories in the world equipped to handle some of the world's most virulent pathogens.

A CBRN national advisory of experts from across the country also advises the Minister of Health on how to prepare for and respond to bio-terrorism events.

Training:

All first responder organizations with consequence management responsibilities (i.e., fire-fighters, emergency medical services, etc) receive ongoing training, much of which is applicable to a "traditional" terrorist scenario. However, CBRN preparedness – which requires heightened awareness, use of specialized equipment and procedures, and interagency coordination – demands additional training.

Budget 2001 set aside $59 M over six years for CBRN training for first responders, $20M over six years to develop a national Heavy Urban Search and Rescue capability, and $10 M over two years for the acquisition of CBRN detection and decontamination equipment and protective clothing for first responders. OCIPEP coordinates these initiatives, in collaboration with a number of departments and agencies.

Incident Response:

Budget 2001 allocated $25M to the RCMP to strengthen CBRN teams and $84 M to the Canadian Forces to enhance its CBRN defence capabilities, including $30 M for the establishment of a new military unit called the Joint Nuclear, Biological and Chemical Defence (JNBCD) Company. The JNBCD Company will conduct a range of operations, including supporting federal departments responsible for managing CBRN emergencies. The unit became partly operational in December 2002 and will be fully operational, with increased equipment and personnel, by December 2004.

The Canadian Forces are also part of a national response team, made up of a Nuclear Biological and Chemical Response Team from the JNBCD Company, the RCMP's Explosive Disposal and Technology Section and Forensic Services, and Health Canada's. Emergency Response Assistance Program and Health Emergency Response Team. Members of this national team receive additional training from DND, RCMP, and Health Canada in the use of CBRN protective equipment, decontamination procedures, specific render-safe procedures, evidence-gathering techniques, crime scene integrity and handling biological samples.

In addition to these tactical teams, a number of departments have technical resources readily available around the clock, including Environment Canada, Transport Canada, the Canadian Food Inspection Agency, the Canadian Nuclear Safety Commission, and Health Canada. These trained specialists offer a range of services, including providing advice to first responders on a 24/7 basis on the handling of dangerous goods, helping to identify the agent used in an attack, providing air and water modelling for predicting the path of a released substance, and conducting laboratory analysis of specimens of high concern.

Research and New Tools:

Canadian research in defence against chemical and biological warfare (CB) agents provides CBRN response teams with defensive equipment that is among the best in the world. Defence R&D Canada (DRDC), an agency within the Department of National Defence, has a considerable knowledge not only of CB

agents, their toxicology and infectivity, but also the behavior of liquids, gases and aerosols released in the atmosphere.

DRDC received $12 M in Budget 2001 to create the Counter Terrorism Technology Centre (CTTC). The CTTC will be constructed at DRDC Suffield over the next two years and will be used to provide advanced training to first responders from across Canada. Mock-up sites will be built to provide hands-on training scenarios for emergency crews. The centre will also house a technology test and evaluation site for assessing the effectiveness of equipment developed for first responders and the military. The first component of the CTTC, a chem-bio forensic lab, begins operations in 2003.

In addition, DRDC is leading the Chemical, Biological, Radiological and Nuclear Research and Technology Initiative (CRTI), launched in May 2002. CRTI leverages science and technology to close gaps in Canada's CBRN response capability. The approach is interdepartmental, creating clusters of laboratories as parts of a greater federal response network. All projects are designed to put new technology and techniques into the hands of Canada's first responders. The first set of 24 projects, announced in September 2002, represents $46 M in funding over three years.

This work complements the efforts of the Canada-U.S. Counter-Terrorism Research and Development group, instituted in 1995. The group has a proven track record of developing technology and tools to counter the broad spectrum of terrorist threats, including CBRN terrorism. Canadian participation is coordinated by Solicitor General Canada.

Conclusion

Although the likelihood of a mass casualty terrorist attack using CBRN agents may be small, it is not negligible, and the potential consequences are sufficiently severe to justify continual emergency planning, monitoring, intervention where necessary, and preparation for possible mitigation.

By conducting targeted research and development, exercising leadership in the global community, and strengthening our domestic response capability, Canada is taking a comprehensive approach to protecting Canadians from the threat of CBRN terrorism. Our efforts in this area will always be a work in progress, as we continually strive to improve our preparedness.

February 2003