

2007-2008 Integrated Summative Evaluation of the Chemical, Biological, Radiological and Nuclear First Responder Training Program

Prepared for:

**Canadian Emergency
Management College,
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EXECUTIVE SUMMARY

Background

Following the terrorist attacks of September 11th, Canada's Budget 2001 focused on enhancing the safety and security of Canadians. The federal government committed \$7.7 billion to a range of programs under its Public Security and Anti-Terrorism (PSAT) umbrella. Of this, \$59 million was provided to federal organizations, over five years, for Chemical, Biological, Radiological and Nuclear (CBRN) training as part of Canada's plan to enhance Canada's public safety, security, emergency preparedness and ability to address CBRN threats.

The CBRN First Responder Training Program (FRTP) is a horizontal, multi-agency initiative coordinated by Public Safety Canada. The aim of the FRTP is to: enhance the state of preparedness, readiness and capability to respond to CBRN incidents in Canada, and thereby increase the safety of Canadians. It targets first responders and delivers the training using four distinct course levels: introductory/awareness, basic, intermediate and advanced, along with health-specific courses designed for first receivers. The participating organizations in this program include: the Canadian Emergency Management College (CEMC) of Public Safety Canada (PS); the Public Health Agency of Canada (PHAC) and Health Canada (HC); the Royal Canadian Mounted Police (RCMP); Defence Research & Development Canada (DRDC); and the Canadian Nuclear Safety Commission (CNSC).

Independent summative evaluations have been conducted on each participating organization's role in the CBRN FRTP after 5 years of operation. These evaluations examined the continued relevance of the initiative, progress made in achieving the intended results (including progress made since the formative evaluations), and cost effectiveness. **This document integrates the findings and recommendations from all these evaluations into one document.**

Findings

The integrated evaluation concludes that:

1. The program has continued relevance and there is a strong rationale and demand for ongoing delivery. However, there remains a need to: extend the reach of the FRTP; better integrate and share responsibility with others for CBRN training; and promote sustainability in training.
2. The program has built a solid foundation and demonstrated significant progress toward the achievement of all stated outcomes, but gaps remain in reaching the health community. The program has trained 5700 traditional first responders to-date and these individuals have an improved ability and confidence to respond to a CBRN incident in an interoperable fashion (between fire, police, and emergency medical services responders). However, ongoing challenges (including the integration of health components, reaching certain health audiences, and ensuring ongoing support for responders following training) can impact the ability to achieve a fully sustained capacity to respond.
3. Cost effectiveness measures have been implemented and alternative delivery approaches are to be considered to enhance the effectiveness of the program and direct program resources accordingly. While there was significant under-spending in first few years of the CBRN FRTP, currently all partners except PHAC are spending their allocated resources. Further efforts are required to improve program governance and determine the appropriate allocation of resources amongst the federal partners.

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Recommendations

To address the outstanding issues and challenges, several recommendations are provided:

1. All partners should continue to participate in and enhance the Steering Committee to ensure transparency and facilitate joint decision-making. Over the next year, the Committee should take an even stronger role in guiding the integrated program and take an enhanced role with respect to business planning, setting strategic directions, assessing alternatives and recommending resource allocations. In addition, it is critical that the Committee formalize its reporting relationship to an appropriate senior executive body to enhance its accountability.
2. Over the next year, the Steering Committee should develop a new strategic plan, building from this evaluation and the issue-based work of the Working Group, to guide the next few years of the CBRN FRTP. As part of this strategic planning, the Committee should examine the allocation of resources amongst CBRN FRTP activities and determine if financial resources are allocated appropriately based on the new strategic and operational plans, including new delivery methods, and make adjustments as needed.
3. After completion of the Strategic Plan, the Working Group should update the Performance Assessment Strategy to include outcome indicators, with specific reporting timelines and targets.
4. Over the next year, the Steering Committee should conduct a study of alternative delivery mechanisms to extend the reach of current FRTP classroom delivery; better integrate and share responsibility with others; and, promote sustainability in training. The delivery of an Incident Command component and Refresher Training program should be included in this assessment. As well, this assessment should determine how best to fully integrate hospital and public health professionals into the FRTP.
5. Over the next year, the Working Group should develop a plan for a formal review of all course contents over time. This review should determine whether the content of the FRTP is up-to-date and complementary to other training initiatives, and what modifications or additions should be considered.
6. Over the next year, the Working Group should continue to work with Public Safety and the CRTI on an ongoing basis to build shared risk/threat assessments and standards for equipment and training, and to coordinate and link with new training initiatives as they evolve.
7. Over the next year, the federal partners should institute formal communication mechanisms with provinces, territories, municipalities and first responder agencies (including an annual Roundtable meeting).
8. Over the next two years, the Steering Committee should put in place a formal external advisory body to provide advice and feedback to the Steering Committee to ensure FRTP currency and relevance to stakeholders.

ACKNOWLEDGEMENTS

The evaluator would like to acknowledge the contributions from CBRN FRTP staff at all participating departments who contributed to their respective evaluations, external stakeholders who provided insights, independent evaluators who drafted organization-specific reports, and Steering and Working Committee members who reviewed this integrated document.

ACRONYMS

CBRN – Chemical, Biological, Radiological and Nuclear
CBRNE – Chemical, Biological, Radiological, Nuclear and Explosives
CEMC – Canadian Emergency Management College (previously the
Canadian Emergency Preparedness College)
CNSC - Canadian Nuclear Safety Commission
CRTI – CBRN Research and Technology Initiative
CTTC - Counter Terrorism Technology Centre
DRDC - Defence R&D Canada, Suffield
EMO – Emergency Measures Office
EMS – Emergency Medical Services
FRTP – First Responder Training Program
HazMat – Hazardous Materials
HC - Health Canada
HR – Human Resources
HUSAR – Heavy Urban Search and Rescue
NEMTC - National Emergency Management Training Committee
OAG – Office of the Auditor General
PAS – Progress Assessment Strategy
PHAC – Public Health Agency of Canada
PPE - Personal Protection Equipment
PS – Public Safety Canada (previously Public Safety and Emergency Preparedness Canada)
P/T – Provinces/Territories
PSAT –Public Security and Anti-Terrorism
RCMP - Royal Canadian Mounted Police
SC – Steering Committee
SGC - Solicitor General of Canada
SME – Subject Matter Experts
SOREM – Senior Officials Responsible for Emergency Management
TB – Treasury Board
TTT – Train the Trainer
WG – Working Group

[*] - IN ACCORDANCE WITH THE PRIVACY AND ACCESS TO INFORMATION ACTS, SOME INFORMATION MAY HAVE BEEN SEVERED FROM THE ORIGINAL REPORTS.

1.0 INTRODUCTION

This report integrates the findings and recommendations from the summative evaluations of all partner agencies involved in the Chemical, Biological, Radiological and Nuclear (CBRN) First Responder Training Program (FRTP).

Section 1: provides a brief overview of the CBRN training program and partners' roles in implementing the program.

Section 2: provides details on the evaluation approach including the evaluation issues and questions.

Section 3: integrates the evaluation findings according to the main evaluation issue areas of relevance, success, and cost-effectiveness.

Section 4: integrates the recommendations for the CBRN FRTP as a whole.

Specific findings and recommendations unique to each partner department are contained within their respective summative evaluation reports.

1.1 BACKGROUND

After the terrorist attacks in the United States in September 2001, the Government of Canada held consultations to identify options to strengthen the national response capability for CBRN incidents. These consultations highlighted the need for CBRN training for first responders, and particularly the need for standardization and interoperability between first responder agencies.

In response, Budget 2001 committed \$7.7 billion in Public Security and Anti-Terrorism (PSAT) funds to federal organizations over five years to enhance Canada's public safety, security, emergency preparedness and ability to address CBRN threats in the wake of September 11th. Over \$250 million was specifically earmarked for addressing chemical, biological, radiological and nuclear (CBRN) threats, including \$59 M for CBRN training, \$10 M for CBRN equipment for first responders, \$20 M for Heavy Urban Search and Rescue (HUSAR) and \$170 M for CBRN research and development (R&D).

This evaluation deals with the \$59M CBRN Training Component for First Responders, which is being coordinated by the Canadian Emergency Management College (CEMC) of Public Safety Canada (PS)¹, in conjunction with the following partner organizations:

- Canadian Nuclear Safety Commission (CNSC);
- Defence R&D Canada (DRDC) Suffield;
- Public Health Agency of Canada (PHAC) and Health Canada (HC); and
- Royal Canadian Mounted Police (RCMP).

The PSAT budget allocation for the responsible partner organizations over the five year period is detailed in the table below. The training component was initiated in 2002/03, with an initial 5-year plan for development and delivery, however, planned funding and activity is ongoing.

¹ The Solicitor General of Canada (SGC) was originally a separate partner but is now part of Public Safety Canada and no longer has a separate role with the FRTP. The former SGC's contribution was assessed in the formative evaluation and SGC used its PSAT resources to conduct the TOPOFF2 exercise in May 2003 – a full evaluation of this exercise is contained in "*Canadian After Action Report – Exercise Top Officials 2 (TOPOFF2)*".

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CBRN FRTP Budget Allocations

	2002-03	2003-04	2004-05	2005-06	2006-07 & ongoing	Totals (\$)
CEMC & SGC¹	1,990,000.00	2,847,000.00	2,750,000.00	2,750,000.00	2,750,000.00	\$13,087,000.00 (22%)
DRDC	3,088,000.00	2,368,000.00	2,268,000.00	2,268,000.00	2,268,000.00	\$12,260,000.00 (21%)
RCMP	1,940,000.00	2,360,000.00	1,847,000.00	1,847,000.00	1,847,000.00	9,841,000.00 (17%)
PHAC & HC	3,150,000.00	3,900,000.00	4,610,000.00	4,610,000.00	4,610,000.00	20,880,000.00 (35%)
CNSC	831,695.00	524,629.00	524,629.00	524,629.00	524,629.00	2,930,211.00 (5%)
Total	11,000,000.00	12,000,000.00	12,000,000.00	12,000,000.00	12,000,000.00	\$59,000,000.00

PSAT funds have had special evaluation and reporting requirements over the last 5 years to monitor progress and report accordingly. As a result, the departments participating in the CBRN FRTP prepared a Progress Assessment Strategy in May 2003 to describe how the program would assess, measure, and quantify its progress and effectiveness. There was a separate section for each of the participating departments/agencies. All partners committed to reporting annually on progress made against plans, and these reports have been submitted accordingly each year to Treasury Board (including individual department reports and integrated reports).

In addition to progress assessment and reporting, participating departments/agencies committed to a 5-year evaluation schedule. In this regard, Evaluation Plans for each partner were completed in December 2003 that committed them to conducting both an interim (formative) evaluation and a final (summative) evaluation. The formative evaluations were completed in 2005 (including individual department evaluations and an integrated evaluation).

As planned, summative evaluations have been completed by each agency/department in the summer of 2007. This report integrates these summative evaluations to provide a comprehensive assessment of the entire CBRN FRTP.

It is important to consider the broader context and evolving state of arrangements for CBRN response in Canada when reviewing this evaluation. Some of the initiatives funded by the December 2001 Budget directly involve the federal government in operations-level response issues that have traditionally been managed by provinces and territories. This may be especially true of the CBRN First Responder Training Program, which, unlike, for example, the simple provision of funding to other governments to support the acquisition of CBRN response equipment, has involved significant service delivery to municipally-based operational first responders in a field that is rich with policy, doctrinal, standards and other variations among responder communities and among jurisdictions. The absence, moreover, until April 2005, of a federal CBRN Strategy for Canada, the continued absence of a defined threat risk based response capacity across Canada and the absence through a portion of this period of broad-based FPT discussion of CBRN matters in general resulted in a somewhat ambiguous environment for this evolving training initiative.

1.2 PROGRAM DESCRIPTION

Overview

The CBRN First Responder Training Program aims to “enhance the state of preparedness, readiness and capability to respond to CBRN incidents in Canada, and thereby increase the safety of Canadians”. It targets “first responders” - those who physically attend and intervene to resolve the problem. This includes professionals who are the first to be involved in dealing with a CBRN emergency, such as: fire fighters, police officers, hazardous materials (hazmat) teams, bomb squads, emergency medical personnel, hospital/medical staff (first receivers), public health personnel and other specialized teams who would be called to attend and intervene in the response.

PSAT funds provided for CBRN Training in 2002 were for new training programs directed at first responders only. Funds were not intended to support existing programs that may have been under-resourced at the time, were not for one-of-a-kind exercises, and were not for CBRN equipment (unless it related directly to training), as other initiatives funded the related equipment needs.

As part of PSAT funding, CBRN training is to be provided to first responders at four levels to achieve the intended outcomes:

1. **Awareness:** to provide training for a broad range of stakeholders who may encounter a CBRN situation within the course of their duties, but are not responsible for direct response;
2. **Basic:** to provide training for first response personnel who may need to recognize and respond to a CBRN situation, but who are not responsible for intervention;
3. **Intermediate:** to provide training for first responders who may be required to intervene in a CBRN situation; and
4. **Advanced:** to provide advanced, hands-on and live agent training for intervening during a CBRN incident.

The logic diagram below illustrates how the levels and activities of the training program aim to contribute to the overall project aim.

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Logic Model – CBRN Training for First Responders

Ultimate Outcome	
To enhance the state of preparedness, readiness and capability to respond to CBRN incidents in Canada, and thereby increase the safety of Canadians	
Target Audience	
First Responders are defined as those who physically attend and intervene to resolve the problem. This includes professionals who are the first to be involved in dealing with a CBRN emergency, such as: fire fighters, police officers, hazardous materials teams, bomb squads, emergency medical personnel, hospital/medical staff and other specialized teams who would be called to attend and intervene in the response.	
Intermediate Outcomes	
<p>Introductory Awareness Training First responders are able to recognize a potential CBRN incident, take appropriate personal protection measures and alert the appropriate response personnel.</p> <p>Basic Training First responders are able to recognize and respond (but not intervene) to a potential CBRN incident while taking the necessary precautions and calling in the appropriate specialized responders.</p>	<p>Intermediate Training First responders are able to respond and intervene to an incident by mitigating & neutralizing its effects, as well as by taking direct action to save lives.</p> <p>Advanced Training First responders who are critical to resolving a CBRN incident (e.g., forensic specialists, bomb technicians, hazardous materials & emergency medical responders) are able to intervene during a CBRN incident.</p>
Immediate Outcomes	
<p>Operational and effective CBRN training course material</p> <p>New or enhanced training programs developed and focused on first responder needs and on protecting public health and security, and saving lives</p> <p>Integration of lessons learned into training materials</p> <p>Competent staff in-place to implement the CBRN Training program</p>	<p>Integrated, coordinated and harmonized CBRN training program across departments and agencies</p> <p>Standard course content nationally</p> <p>Training programs delivered to first responders to enable them to recognize and/or respond to CBRN incidents</p>
Activities/Outputs	
<p>Development of all CBRN training courses:</p> <ul style="list-style-type: none"> • Acquiring materials • Examining existing training programs • Defining specific course content • Hiring or providing subject matter experts and training specialist(s) • Producing course materials • Coordination of input with first responders and Emergency Measures Organizations <p>Delivery of all CBRN training courses</p> <ul style="list-style-type: none"> • Assembling, integrating and producing materials for delivery of courses • Conducting training courses • Conducting scenarios and exercises 	<p>Management and coordination of CBRN training for first responders:</p> <ul style="list-style-type: none"> • Participation in Steering Committee & Training Committee • Coordination of all content and administrative components for the 4 levels of training • Administer training facilities • Participation in shared web site http://www.publicsafety.gc.ca/prg/em/cemc/04pgc_02-en.asp ▪ Communications & Liaison ▪ Internal management and administration

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Roles and Responsibilities

The government departments and agencies involved with the CBRN Training program have been working to accomplish the CBRN FRTP outcomes by designing and delivering the four levels of courses. The CEMC, as lead agency, has the additional role of providing overall management and coordination for the initiative as noted in the logic model above. As well, the Public Health Agency of Canada and Health Canada have been delivering health-specific training/workshops to healthcare providers and public health personnel professionals separately.

The specific roles for each partner department include:

Organization	Roles & Responsibilities for Emergency Related Training and the CBRN FRTP
Canadian Emergency Management College (CEMC), Public Safety Canada (PS)	<ul style="list-style-type: none"> ▪ Lead responsibility for co-ordinating CBRN training with other federal partners ▪ Overall co-ordination of the Intermediate level course ▪ Development of the following subject matter content for all levels of training: <ul style="list-style-type: none"> ▪ management and coordination of multi-agency, multi-jurisdiction responses to CBRN incidents ▪ Coordination and management of student travel and enrolment for the Intermediate and Advanced levels ▪ Coordination and delivery of Basic train-the-trainer ▪ Coordination and support of P/T led classroom delivery of the Basic level ▪ One-window contact for provincial and territorial emergency measure organizations (EMOs) ▪ Coordination of ongoing course evaluation, validation and needs assessment for all levels of training. ▪ Coordination and implementation of e-learning tool for Awareness and Basic Level courses ▪ Coordination of marketing and promotion of the CBRN FRTP ▪ Coordination and development of a strategic and business planning frameworks ▪ Coordination and chair of the CBRN Steering committee and WG level groups (Provide secretarial function to all committees). ▪ Monitor and report of the overall CBRN FRTP initiative
Defence R&D Canada (DRDC), Suffield, Department of National Defence	<ul style="list-style-type: none"> ▪ Provision of advanced CBRN training to the responder community ▪ Overall coordination of the delivery of the Advanced level trainin. ▪ Development of the following subject matter content for all levels of training: <ul style="list-style-type: none"> ▪ chemical warfare agents ▪ chemical agent decontamination process and procedures ▪ detection and self protection ▪ CBRN personal protective equipment ▪ Assistance in the delivery of some sessions of the intermediate training program
Centre for Emergency Preparedness and Response (CEPR), Public Health Agency of Canada (PHAC)	<ul style="list-style-type: none"> ▪ Design and delivery of the health components for all levels of training ▪ Development of specific modules at the Intermediate level involving: <ul style="list-style-type: none"> ▪ infectious disease identification and treatment ▪ safe handling, transportation and decontamination of biological agents ▪ laboratory methods for detecting and identifying Biological agents ▪ psychosocial effects of terrorism ▪ One-window contact for provincial and territorial health and social services ▪ Coordination of ongoing course evaluation, validation and needs assessment for all health responder specific training ▪ Coordination and implementation of delivery of health related courses (e-learning, classroom)
Nuclear Emergency Preparedness and Response Division (NEPRD), and Chemical Emergency Response Unit, Health Canada (HC)	<ul style="list-style-type: none"> ▪ Provide health related expert advice for the following subject matter areas for all levels of training: <ul style="list-style-type: none"> • effects and treatment of radiological and nuclear health • industrial chemical safety

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Organization	Roles & Responsibilities for Emergency Related Training and the CBRN FRTP
Explosives Disposal and Technology Section, Royal Canadian Mounted Police (RCMP)	<ul style="list-style-type: none">▪ Design and development for all levels of CBRN training regarding police specialities, including forensic identification specialist and police explosive technician training▪ Delivery of policing components for intermediate and advanced courses, including, for example: intelligence indicators, critical incident protocols, reconnaissance, diagnostics, forensics and devices-disseminators
Canadian Nuclear Safety Commission (CNSC)	<ul style="list-style-type: none">▪ Design and delivery of radiation and nuclear content such as protection, detection, monitoring and responding to radiological and nuclear incidents▪ Laboratory methods for detecting RN agents

Preventing or responding to CBRN incidents requires concurrent, cooperative and supportive action by multiple agencies and governments. Provinces and territories have overall responsibility for managing the consequences of CBRN terrorist incidents, assisted, if necessary and as requested, by the federal government. Provinces and territories have called for a strong leadership role on the part of the federal government in the development of national standards and guidelines for CBRN training and equipment, as well as the provision of sustained funding support for training programs.

2.0 APPROACH TO THE EVALUATION

Objectives

The objectives of the summative evaluation are to:

- Determine the continued relevance and rationale for the program;
- Demonstrate the results and impact achieved, and how well the overall objectives were met; and
- Determine the cost effectiveness of the program and any alternative approaches required.

Success of the CBRN FRTP is to be indicated by²:

- Improved state of preparedness and protection for Canadian first responders when dealing with CBRN incidents;
- Cadre of first responders with new skills and confidence to effectively respond to CBRN incidents and reduce loss of life (acquired and retained skills and knowledge);
- Localized expertise in place and well positioned to quickly respond to CBRN incidents; and
- Satisfaction of other emergency organizations involved in CBRN training/incidents with the performance of first responders.

Methodology

The following summary table outlines the issues, indicators and data sources for the summative evaluation. This is derived from the performance measurement strategies articulated in the Progress Assessment Strategy and the methodologies articulated in the Evaluation Plan.

The scope of this evaluation includes the activities and roles of all partners in delivering the FRTP.

² As noted in the Progress Assessment Strategy, May 2003.

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Evaluation Issues	Evaluation Questions	Indicators	Data Sources/ Collection Methods
Rationale/ Relevance	Is there a clear and relevant vision and objectives for activities?	Consistent and well understood goals and objectives for activities, related to articulated PSAT need.	Departmental plans and performance / progress reports
	<p>Does the CBRN FRTP continue to be consistent with government-wide priorities and fit within the existing CBRN Strategy?</p> <p>Does the CBRN FRTP continue to be aligned with departmental/agency priorities and operational training programs?</p>	<p>Program's ongoing alignment with government priorities and CBRN needs.</p> <p>Adjustment of program in response to environmental change.</p>	<p>Environmental Scan</p> <p>File review of Annual Progress Reports & Departments</p>
	Is there a continued need for the CBRN FRTP?	Ongoing need for capacity or activity in area of federal jurisdiction.	<p>Environmental Scan</p> <p>Surveys of provinces and responder communities</p>
Success	<p>Are completed and planned training activities meeting, or likely to meet, the expected medium and long term outcomes?</p> <ul style="list-style-type: none"> - Are the right people being trained in the right numbers and proportion? - Are the training programs addressing first responder needs and on protecting public health and security, and saving lives? - Is the training effective at building the needed capacity? 	<p>Activities implemented as planned, adjusted as needed, and designed to meet outcomes.</p> <p>Expertise in place to respond to CBRN incidents.</p> <p>First responders have new skills and confidence; and, improved preparedness level for dealing with CBRN incidents.</p>	<p>File reviews of Annual Progress Reports</p> <p>Surveys of key stakeholders</p>
	To what extent are the activities (planned and completed) relevant to the first responder needs?	First responders satisfied with training.	<p>Survey of select first responders on training development team</p> <p>Collation of course evaluations from first responders & instructors</p>
	To what extent has there been maintenance of training levels or continued support to those trained by their province/ territory/ municipality?	First responders continue to maintain training; P/T/M satisfied with training and FR performance; and demonstrate ongoing willingness to contribute \$ and support.	<p>File reviews of Annual Progress Reports</p> <p>Surveys of key stakeholders</p> <p>Collation of course evaluations</p> <p>Input from National Roundtable held March 2007</p>

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Evaluation Issues	Evaluation Questions	Indicators	Data Sources/ Collection Methods
	Are the responsible groups provided with the necessary authority and resources to ensure success?	Decision-making commensurate with responsibility. Resource allocation commensurate with activity.	Interviews with CEMC and participating departmental managers Review of activities versus expenditures in Annual Reports, and other financial documentation
	Have there been any unexpected outcomes or gaps in those being trained? Has there been integration of lessons learned into training materials? What are the risks and liabilities associated with the delivery of the FRTP? How effective have program strategies been at mitigating them?	Changes in direction or outputs from original plans; identification of issues and challenges. Updated training materials Identification and response to risks.	File reviews of Annual Progress Reports and training materials Input from National Roundtable Interviews with CEMC staff, managers and instructors
Cost-effectiveness / Alternatives (design and delivery)	Are there appropriate management and decision-making structures in place to coordinate CBRN training and deliver the planned outputs within the estimated timeframe and budget? Are management structures and original plans respected? Are departments working well together to achieve effective horizontal management? Are there appropriate governance and control procedures to ensure accountability?	Established governance structure in place and effective. Decisions made by Steering Committee implemented Clear roles understood and executed by partners. Commitment of planned resources to planned tasks. Enhanced partnerships and strengthened cooperation with key stakeholders. Equitable sharing of workload. Integrated and coordinated training program in place across federal dept's & agencies.	Interviews with CEMC staff, instructors and students Review of documentation on roles; agreements; partner interactions; etc. Review of Steering Committee Minutes Review of Strategic Plan and implementation of its recommendations
	Have the government processes for staffing and equipment acquisition facilitated timely delivery?	Staff hired and trained as expected, and sufficient to meet demand. Staffing, contract review and equipment purchase processes working well for CBRN managers.	Interviews with CBRN managers

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Evaluation Issues	Evaluation Questions	Indicators	Data Sources/ Collection Methods
	Have the PSAT resources (\$O&M and FTEs) been dedicated to the new CBRN Training activities as outlined in the Treasury Board (TB) Submission?	\$ and FTE time spent on CBRN Training, compared to budget.	Review of reporting and financial documents; interviews with managers
	<p>Is the program being delivered cost effectively?</p> <p>Has there been consideration of options/alternatives to increase cost-effectiveness or efficiency in delivery?</p> <p>Is there overlap or duplication in training at the federal and provincial/territorial level?</p> <p>Have the resources been sufficient to conduct the required work?</p> <p>Are resource reallocations required between and among the partners?</p>	<p>Assessment of alternative approaches to increase cost efficiency.</p> <p>Financial management system linked to results management process.</p> <p>Standard course content nationally; complementary programming.</p> <p>Allocation of resources appropriate to tasks and requirement for additional resources addressed.</p>	<p>Interviews with managers, partners and stakeholders</p> <p>Review of financial management systems and decision-making</p> <p>Comparison with 'similar' programs on cost effectiveness (where possible)</p> <p>Input from P/T</p>

The files reviewed and types of individuals interviewed to provide inputs to this evaluation are listed in Annexes A and B, respectively.

3.3 FINDINGS

Summary of Findings by Evaluation Question

1. Rationale/ Relevance

1.1 Is there a clear and relevant vision and objectives for activities?

The vision and objectives for the CBRN FRTP are clearly set out in the [*], Progress Assessment Strategy and Logic Model (part of the Evaluation Plan). These were all developed early on in the program with all partners contributing to their development. The articulated vision and objectives have remained constant over the last 5 years, with the exception being that training for healthcare providers and public health personnel was only partly integrated with training for other responders (fire, police, EMS,) as originally envisioned and still desired by some stakeholders.

Interviews confirmed that there remains a common understanding of the program's goals in line with the original intent – to train first responders so that they have an enhanced capacity and ability to respond to a CBRN incident.

The objectives for the FRTP remain consistent with the objectives identified by the PSAT initiative – ‘to enhance Canada’s public safety, security, emergency preparedness and ability to address CBRN threats’.

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1.2 Does the CBRN FRTP continue to be consistent with government-wide priorities and fit within the existing CBRN Strategy? Does the CBRN FRTP continue to be aligned with departmental/agency priorities and operational training programs?

The FRTP activities and expected outcomes are consistent with and relevant to:

- The Government of Canada's priorities and roles in protecting Canadians and contributing to a secure country and borders.
- The Government of Canada's CBRN Strategy (2005) which aims 'to protect Canada and Canadians by taking all possible measures to prevent, mitigate and respond effectively to a potential CBRN incident' and commits the Government of Canada to 'sustaining and delivering a coordinated CBRN training program'.
- The National Security Policy (2004).
- The National Emergency Management (EM) Training Strategy (2005-2010) signed by all EM Ministers (including Public Safety Canada's Minister) to deliver collaborative and cooperative training.
- Each partner department/agencies role:
 - CEMC's role as providing the federal government's focal point for cross-disciplinary emergency management training and learning.
 - DRDC's role as providing chemical and biological subject matter expertise and instruction, and as lead in live agent training.
 - RCMP's role as providing law enforcement expertise and response to counter criminal or terrorist acts, particularly those involving explosives.
 - CNSC's role as regulator of the use of nuclear energy and materials in Canada to protect public health, safety, security and the environment.
 - PHAC's role as the federal health authority on bio-terrorism, emergency health services and emergency response. However, PHAC's role in the CBRN FRTP currently lacks clarity to partners and stakeholders; and there are challenges in training the health community including difficulties engaging hospitals and staff, lack of awareness around their potential roles in CBRN response, and complicating jurisdictional and priority issues.
 - HC's role as coordinator for the federal preparedness and response to a nuclear radiological emergency. However it is unclear to what degree HC and/or CNSC are responsible for providing health specific radiological-nuclear subject matter expertise to the CBRN FRTP, as this is some ambiguity about the lead in this area.

1.3 Is there a continued need for the CBRN FRTP?

An Environmental Scan has been conducted as part of this evaluation to document the ongoing need and context for the CBRN FRTP (see Annex C). In summary, this scan indicates that while there have not been any significant incidents of the threat or use of CBRN terrorism in Canada over the last few years, Canada is not immune from a terrorist attack. Many terrorist groups/networks have explored or at least aspired to acquire and use chemical, biological and sometimes radiological materials. In addition, Al Qaeda has identified Canada as a potential target on several occasions and a large number of international terrorist groups operate in Canada.

The likelihood of a mass-casualty terrorist attack using CBRN materials is small, but it is not negligible, and the potential consequences are so severe as to justify continual governmental concern, monitoring, intervention where necessary, and preparation for mitigation in the unlikely event that one should occur. The vulnerability of society to CBRN threats or attacks remains high. Effective response to CBRN incidents continues to be dependent in large measure on the skills, capabilities, and immediate response of

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‘first responders’ and there is an ongoing need to ensure these responders have access to coordinated and effective training at all levels designed to meet their particular needs.

The relevance of CBRN training is further supported by international efforts. The G8 Lyon Roma Group³ suggests that specialized training in hazardous agent response is important and concurs with the Canadian model⁴. An international respondent indicated that the Canadian model for CBRN training is consistent with many of the practices applied to CBRN training in the United Kingdom and the Australian model draws heavily from the CBRN FRTP curriculum.

In the wake of this continued threat environment, all interviews indicated that there remains a strong need and demand for CBRN courses by first responders. While there have been hundreds of responders trained to-date, interviewees indicate that this represents only a small fraction of the responder community in Canada (N.B. many respondents and federal partners indicated that the ultimate goal is to have all first responders in Canada trained at least at the Basic Level). While capacity has been built in large urban centres like Toronto, some municipalities expressed a need to expand the program’s reach into surrounding/supporting areas (e.g., Peel County) and into smaller municipalities⁵. In addition, continued training is required for new responders as they move into specialized positions (e.g., hazmat technician) and/or replace others who have moved on.

The context in which FRTP operations have been conducted has been evolving since 2002 and continues to evolve. While the Environment Scan highlights the continued CBRN threat/risks for Canada, there is no comprehensive threat/risk assessment across the various regions of Canada that can be used to define the specific nature and degree of training needs in provinces/territories/municipalities. Currently, provinces decide who should be trained based on their own assessment of needs/demands. While some provinces have a specific plan (e.g., Ontario and Quebec have select TIER 1 cities that will have CBRN teams), others have more ad hoc methods for determining who should be trained. Some Provinces feel that a toxic industrial chemical spill or a large explosion are more likely threats and that training should be done on an all-hazards basis rather than just a CBRN-specialized basis. While it is the Provinces’ decision on who to train, they want information from the federal government on the threat environment to assist in their decision making. Despite this desire for a more risk-based context for decision-making, all provinces interviewed agreed that the CBRN FRTP is a good training program that they will continue to send their first responders to for training. In addition, all groups of stakeholders interviewed indicated that the CBRN FRTP is relevant to first responder needs

The CBRN FRTP represents an appropriate approach for developing consistent CBRN skills for first responders across jurisdictions. Federal involvement and leadership in the development and delivery of CBRN training is considered suitable, providing strong consultation and communication mechanisms with provincial and territorial governments are maintained. The CBRN FRTP fills crucial training gaps in terms of preparing first responders for CBRN incidents in an interoperable environment - there is no other initiative in place to deliver CBRN training nationally and in an interoperable manner. While some

³ The objective of the G8 Lyon Roma Group was “to develop a multi-disciplined law enforcement response to incidents involving the accidental or deliberate release of hazardous agents - military chemical warfare agents, biological warfare agents, toxins, toxic industrial chemicals and dispersed radioactive isotopes”.

⁴ G-8 Lyon Roma Group (November 2005) Law Enforcement Projects Sub-Group, Hazardous Agents Mitigation, Best Practices - Law Enforcement Response to Events Involving Hazardous Agents (Version III).

⁵ It is important to note that some P/Ts have established CBRN response concepts based on resources available and perceived threat priorities. There are some discrepancies between level of required preparedness indicated by P/Ts and what is perceived to be needed from the viewpoint of certain municipalities.

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other federal departments are engaged in CBRN training⁶ and also some provinces and municipalities have developed capacities to train their responders and others to address CBRN incidents through a variety of means, there is no other nationally consistent and comprehensive program. However, there currently lacks a method to integrate training involving traditional first responders with the health community in certain emergency situations.

This evaluation found that the following needs to be considered to enhance the relevance of the FRTP:

- Reconcile the stated desire for greater decentralization with the notable absence, in most cases to date, of P/Ts' taking advantage of the decentralization that already exists at the Basic level.
- Continue to build a cadre of subject matter experts to further extend the training and provide capacities outside the federal government.
- Better integrate and share responsibility with other governments, other government departments and the private sector for CBRN training.
- Extend and integrate CBRN training for health first responders and receivers. There is a recognized need to develop interoperability between the health first responders/receivers and traditional first responders.
- Develop national (or international) standards for all aspects of CBRN training, equipment and concept of operations.
- Take an all hazards risk assessment approach to designing training and enhancing interoperation and integration.
- Establish a formal marketing program aimed at educating senior management within P/Ts on the objectives of the CBRN FRTP and its benefits.
- Promote sustainability in training, assuring training maintenance and sustainable proficiency.
- Develop an incident management training program that takes an all hazards approach.

2. Success

2.1 Are completed and planned training activities meeting, or likely to meet, the expected medium and long term outcomes?

Training According to Plans

Planned activities were articulated in [*] and the Progress Assessment Strategy (see Annex D for course details). Despite early delays, planned activities are generally being implemented as articulated, with the changes and exceptions noted below:

- Health-specific training by PHAC/HC is currently being delivered separately from the CBRN FRTP and in a manner that was not originally anticipated. Some hospital and public health courses originally planned have not been delivered due to a number of challenges.
- The 'Senior-level Responders/Decision-makers' course originally planned has not yet been developed or delivered. This was to be a CBRN module added to CEMC's existing ESM/EOC courses (also referred to as 'Incident Commander' or 'Command and Control' course).
- Some new e-learning activities have been added to enhance the reach of the FRTP (e.g., on-line Basic course).
- The target audience for the Advanced course has been expanded - the original intent of the program was for only a select few candidates to attend the Advanced level course, however this

⁶ National Defence, the Canadian Border Services Agency and Transport Canada (Dangerous Goods) deliver some CBRN training to their federal staff, and this is not linked with the CBRN FRTP (these courses have different aims and audiences and were developed prior to/separately from the FRTP).

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has been modified so that the current intention is for most graduates from the Intermediate course to take the Advanced as an extension to enable them to build confidence in their response skills.

Amount of Training

The number of First Responders trained is an indicator of the success in achieving the expected outcomes, as a cadre of trained responders is required across Canada to enhance public safety. To-date, significant capacity has been built in a number of urban areas (Vancouver, Calgary, Edmonton, Toronto, Ottawa, Windsor, Quebec City, Montreal, Gatineau, St. John, Fredericton, Halifax), and some capacity has been built in secondary cities. Progress in training to the end of March 2007 is noted below for both traditional and health-specific first responders:

Traditional First Responders Trained:

Total Number of Courses Delivered, All Levels, By Fiscal Year

Level	2003 - 2004	2004 - 2005	2005 - 2006	2006 - 2007	Total
Basic TTT	4	1	2	1	8
Basic	0	16	26	33	75
Intermediate	1	4	7	6	18
Advance	0	2	3	6	11
Total	5	23	38	46	112

Training Numbers by Year

Level	2003 - 2004	2004 - 2005	2005 - 2006	2006 - 2007	Total
Awareness	-	-	-	1385	1385
Basic e-Learning	-	-	-	979	979
Basic TTT*	176	9	58	13	256
Basic	0	334	669	1063	2066
Intermediate	37	129	289	234	689
Advanced	0	60	85	180	325
Total	213	532	1101	3854	5700

*The reach of the Basic TTT is greater than reported here as training occurs at the regional and local level that is not reported to CEMC.

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**CBRN Training (all levels) by Province and Territory
(2003-2007)**

Alberta	880
British Columbia	1442
Manitoba	1027
New Brunswick	84
Newfoundland & Labrador	167
Northwest Territories	3
Nova Scotia	170
Nunavut	0
Ontario	1106
Prince Edward Island	14
Quebec	205
Saskatchewan	451
Yukon	150
	5700

While these training numbers are significant, and have been building year after year, the number of First Responders trained at the Basic level remains lower than expected as the Train-the-Trainer approach and regional delivery model designed did not get fully implemented as planned. The long term goal of the program is to have all First Responders trained at the Basic level.

Health First Responders/Receivers Trained:

Targeted course material for the health community has recently been integrated into Basic and Awareness online courses noted above. Currently, there are no components in the Intermediate and Advanced Responder courses that integrate the broader health community with traditional first responders, as originally planned.

The following health-specific courses, workshops or tools have also been developed and delivered separately from the rest of the CBRN FRTP.

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Health Training Numbers by Course

Course/Workshop/Tool	Total (approx.)
Tier 1 Laboratory TTT	300
Tier 1 Laboratories Bioterrorism Recognition Training Online course	55
Surge, Sort, Support: Disaster Behavioural Health On-line Course	30
1 st National Health Emergency Preparedness Conference	120
Emergency Operations Centre Volunteer Training	100
Casualty Simulation Course	30
Emergency Social Services Basic Course	90
Emergency Health Services and Emergency Social Services Basic On-Line Course	80 (pilot)
Smallpox Vaccine distribution workshop	20
Border Health Security Training	55 (on hold as of 2004-05)
Emergency Response Assistance Plan (ERAP) and Transportation of Dangerous Goods (TDG) training as part of ERAP 2.5 day training course	50
Evaluation of Risk Communication Capacity for Training Development	n/a
CBRNE Plan Checklist: A Template for Healthcare Facilities	n/a
Total	930

A range of other courses / training sessions have been previously noted in annual reports (but not in the summative evaluation) that have reached around **1000 individuals**, for example:

- Auto-Injector Orientation – 20 participants
- Bioterrorism Outbreak Investigation Workshop – 100 participants
- Chemical Biological Warfare Conference – 50 participants
- CL3 Biosecurity Lab Training – 185 participants
- CBRN Response workshop (in collaboration with WHPS) – 65 participants
- Psychosocial Emergency Preparedness & Response Sessions – 28 participants
- 200-Bed Emergency Hospital Training – 23 participants
- National Emergency Stockpile System orientation and Unit Box Identification Course – 15 participants
- Epidemiology Emergency Response Training Workshop – 47 participants
- First National Health Emergency Preparedness Conference on Hospital Surge Capacity – 243 participants
- R/N training and field exercises (fed/prov) – 280 participants
- R/N Emergency Management Training for Health Decision Makers course (fed/prov) - 40 (pilot) participants⁷

In addition, there are a number of health-specific courses that have been developed, or are under development, to increase the reach, that are not included in the above table, including:

1. Forensic Epidemiology Course (being created with RCMP)
2. Evaluation of Risk Communication Capacity for Training Development
3. Radiation Protection for Hospital Workers - Introductory Level⁵
4. Radiation Protection for Hospital Workers - Basic Level⁵

⁷ NEPRD in HC has only recently been engaged in the CBRN FRTP due to lack of communication and clearly defined roles between PHAC and HC. Since becoming more active, NEPRD has developed 3 related courses.

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The PHAC/HC evaluation noted that a number of challenges have hampered health specific course development and delivery (see Table below), including the issue that health care is a provincial jurisdiction; the health community is large and diverse; and competing issues are higher priorities (e.g., pandemic). The lack of an effective and efficient F/P/T consultation mechanism focused on CBRN-related issues is an additional challenge and creates the potential for duplication and lack of consistency. PHAC supplemented [*] approach by including courses directed at groups many responders consider to be secondary responders⁸ and developing workshops and tools. However, several gaps remain, particularly courses directed at hospitals and courses at the Intermediate and Advanced levels.

PHAC Course Development Challenges

Challenge	Impact on Course Development
Health care a provincial jurisdiction	<ul style="list-style-type: none"> ▪ PHAC unable to directly provide training to the health community (e.g., hospitals) ▪ PHAC unable to contact physicians directly to determine training needs ▪ PHAC has no mandate to provide national training standards or protocols ▪ Lack of coordination with provinces leading to potential for duplication and lack of consistency ▪ Gaps in training result
Large and diverse health community <ul style="list-style-type: none"> ▪ Difficult to engage hospitals, physicians, nurses ▪ Some health first responders / receivers cannot leave hospitals for extended periods for training ▪ Different professions with unique needs ▪ CBRN incident considered low risk ▪ Prefer all hazards approach 	<ul style="list-style-type: none"> ▪ Need for PHAC to clearly define target audience ▪ Need to consider alternative methods of delivering training ▪ Need to adapt course material to meet different professional needs ▪ Ad hoc courses and workshops developed that may not reach intended target audience of health first responders / receivers ▪ Gaps in training result
Diverse stakeholders would like material that reflects their own communities	<ul style="list-style-type: none"> ▪ Difficult to develop generic material relevant to 13 provinces / territories
Lack of marketing <ul style="list-style-type: none"> ▪ Need to coordinate with CEMC to promote courses means PHAC cannot market with own material 	<ul style="list-style-type: none"> ▪ Delays as a result of CEMC request that PHAC hold off distributing marketing material created by PHAC ▪ Lack of awareness and reach
Technical difficulties	<ul style="list-style-type: none"> ▪ Unable to accurately track health participants taking online Basic and Awareness courses hosted by CEMC ▪ Server issues at PHAC have delayed launch of ESS and EHS Basic online courses

Quality of Training

In addition to the number trained, it is important to consider the quality of the training in building the required skills and knowledge for CBRN response. A detailed compilation of the course evaluations conducted on the CBRN FRTP over the last few years was provided by the College to assist in this assessment (N.B. no course feedback / evaluation was available on health specific courses). These evaluations were completed by students following training and covered areas such as ‘quality of instruction, course material, learning and content/structure’. Students were asked to rate these areas from 1 to 5 (5 being best) and also provide any additional suggestions for improvement. From these evaluations, the following can be concluded:

⁸ PHAC’s view is that these groups could potentially be first responders.

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- Basic Course – participants rated most areas very well (around 4/5 on average, including ability of course to meet their needs, usefulness of material, clarity and relevance of instruction/material). The highest scores were for instructor expertise and the lowest scores were for the duration of the course (3.5/5). Participants suggested that perhaps a longer pre-read component could be incorporated to reduce the length of time needed in the classroom. Also, a brainstorming session conducted with key instructors delivering the Basic course concluded that the course is still current and well focused to meet the needs of the fire, police and EMS responders. However, some noted that the lack of integration of health responders was one of the biggest shortcomings of the course.
- Intermediate Course – participants rated most areas very well (greater than 4/5 on average). The highest scores were for instructor knowledge and the scenario portion of the course. In addition participants had very high scores for ‘confidence in performing the tasks learned/ enhanced skills to respond to a CBRN incident’ (well over 4/5). When asked how their skills and knowledge for CBRN response had improved based on the training, students indicated that they had moved from a 2/5 before the course to a 4/5 after the training. The lowest scores were around the structure of the course including pace of the course, duration and balance between theory and practice (2-3/5). Interviews confirmed that many believe the Intermediate course should be shorter (1 week in duration). There was a change in scores from participants in some 2006 courses relative to previous years, with slightly lower scores on lessons and slightly higher scores for scenarios. This may be due to the fact that now more experienced and knowledgeable students are attending and desire more practical/hands-on training than theory.
- Advanced Course – participants rated all areas very well (around 4/5), and particularly liked the ability of the course to meet their needs, and increase their ability to use the skills learned. The vast majority of participants would recommend this course to others. The main suggestion for improvement was providing more time for scenarios/hands-on training.

Summary

Based on the information above, it can be concluded that the FRTP has met its immediate outcomes for traditional first responders, is meeting its intermediate outcomes and is likely to meet its ultimate outcome – ‘to enhance the state of preparedness, readiness and capability to respond to CBRN incidents in Canada, and thereby increase the safety of Canadians’. However, this is qualified in that interoperability has only been achieved between fire, police and EMS responders and not also with healthcare providers and public health personnel. Limited progress has been made in addressing the health communities CBRN training needs at the Intermediate and Advanced levels. The expected level of reach and interoperability originally envisioned for the health community has not been achieved.

While training quality and delivery rates are positive, thus indicating that long term expected outcomes can result, there is no information to assess the *actual* effectiveness of the training program in preparing a cadre of first responders to intervene appropriately to terrorist incidents (e.g., no exercises/tests or real life incidents to measure response capabilities). The capacity to respond could be affected by a number of issues outside of training quality, including: the lack of refresher training to maintain skills; lack of equipment to respond; absence of a fully operational and local CBRN team to respond; and lack of critical mass across the country to respond effectively.

2.2 To what extent are the activities relevant to the first responder needs?

The goals/learning objectives and content of courses developed and delivered are consistent with those articulated in foundation documents. Feedback from interviews and course evaluations indicates that the

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FRTP course content meets the needs and objectives of traditional first responders very well. Most key informants noted that while CBRN-related training is relevant to the health community, there are many challenges including defining which segments of the health community are first responders / receivers⁹, determining how to effectively engage them, and developing courses that integrate them with traditional first responders.

The FRTP has focused training on traditional first responders (police, firefighters, emergency medical services), with a wider reach for the awareness and e-learning courses, as originally planned. For intermediate and advanced levels the target audience focused on those First Responders with specializations in emergency medical response, explosives, hazardous materials, and forensics/identification. As noted previously, there are gaps in reaching the medical responders, public health personnel and incident commanders. Challenges in reaching the health community include having a target audience that does not consider themselves first responders / receivers, but rather as support to first responders / receivers. In addition, there are difficulties in trying to engage hospitals and staff to participate in CBRN training activities since the likelihood of an incident is considered very low, and other issues such as pandemic planning are a much higher priority. Most key informants also explained that the health community tends to take an “all hazards” approach to training for emergencies and that a CBRN-related incident should be considered from that perspective and incorporated into general emergency / disaster training.

The types of traditional first responders that have been trained to-date are detailed below (for health-specific responders, refer to Section 2.1).

Types of Traditional First Responders Trained:

The proportion of first responders represented varied depending on course (e.g., Intermediate course aims to load a maximum of 45 responders per course (15 per city team); with 15 Fire (hazmat), 15 Police (9 Bomb techs, and 6 Forensic Identification specialists), and 15 EMS; and the Advanced course aims to load 33 responders: 15 Hazmat, 6 EMS, 6 Bomb techs and 6 Forensics.

The following tables show the type and proportion of First Responders trained to-date:

CBRN Intermediate Training Numbers by Quarter by Role

Occupation	2003/2004				2004/2005				2005/2006				2006/2007				Total
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Bomb Tech.	7	0	0	0	13	0	6	5	15	0	21	18	7	4	14	8	118
EMS	12	0	0	0	12	0	6	6	22	0	34	30	32	15	23	14	206
HazMat	12	0	0	0	29	0	17	15	29	0	42	29	28	14	30	15	260
Forensic Ident.	6	0	0	0	11	0	3	6	16	0	20	13	11	5	10	4	105
Total for Fiscal Quarter	37	0	0	0	65	0	32	32	82	0	117	90	78	38	77	41	689
Total for Fiscal Year	37				129				289				234				

CBRN Advanced Training Numbers by Quarter by Role

2003/2004	2004/2005	2005/2006	2006/2007
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⁹ [*], some have indicated that this is too narrow a description of health first responders/ receivers and does not reflect the potential of a larger target audience with unique needs.

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Occupation	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Total
Bomb Tech.	0	0	0	0	3	0	7	0	11	0	7	0	14	6	6	12	66
EMS	0	0	0	0	6	0	6	0	10	0	6	0	12	6	6	12	64
HazMat	0	0	0	0	13	0	14	0	27	0	11	0	28	14	12	24	143
Forensic Ident.	0	0	0	0	8	0	3	0	8	0	5	0	10	3	3	12	52
Total for Fiscal Quarter	0	0	0	0	30	0	30	0	56	0	29	0	64	29	27	60	325
Total for Fiscal Year	0				60				85				180				

CBRN E-Learning (Awareness & Basic) Training Numbers by Service

Occupation	Q1	Q2	Q3	Q4	Total
1 911 Operator	5	3	17	13	38
2 Airport Security	0	0	0	0	0
3 Building Operator	0	1	0	1	2
4 Building Security Officer	1	3	7	2	13
5 Emergency Manager	20	24	18	19	81
6 Emergency Medical Services Officer	18	69	84	67	238
7 Health Care Provider	3	39	81	20	143
8 Mail Room Staff	2	3	11	0	16
9 Manager	10	9	8	8	35
10 Police Officer	6	126	46	17	195
11 Public Servant – Federal	10	182	25	16	233
12 Public Servant – Municipal	2	5	8	7	22
13 Public Transit Operator	0	0	0	0	0
14 Student	4	7	45	33	89
15 Other	5	54	38	39	136
16 Paramedic	1	4	86	293	384
17 Firefighter	19	106	305	198	628
18 Hospital Staff	0	5	8	0	13
19 Public Health Personnel	4	13	13	1	31
20 Security Guard	1	11	6	5	23
21 Air Transportation Personnel	0	0	0	1	1
22 Public Servant - Provincial or Territorial	19	8	7	9	43
23 Union Official	0	0	0	0	0
Total for Fiscal Quarter	130	672	813	749	2364
Total for Fiscal Year	2364				

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Trends:

It is clear by the trends that the number of responders being trained has increased significantly over the last few years, with the vast majority trained in the last fiscal year (68%). For advanced and intermediate courses, while the numbers are comparable, there have been more hazmat responders trained than other service groups. The e-training courses have significantly expanded the reach of the F RTP to a wider range of services that may be involved, to some degree, in having to recognize a CBRN incident (e.g., 911 operators, public health professionals, public servants/managers). In addition, the Basic level on-line course does now reach the health community [*].

Course evaluations and interview responses indicated that all F RTP courses were effective in reaching the target audience and increasing first responder capacity to respond to a CBRN incident. In addition, responders noted that this training is the only program that provides real scenario training with the complete team of first responders (fire, police, and emergency medical services), thus also enhancing interoperability (though not fully with the health community). Many interviewees noted that historical walls between Fire/Police/EMS have been broken down and new networks built. The level of instruction is well regarded and all responses on course content were very positive, with participants considering the training useful and worthwhile. In fact, while this training is CBRN specific, the skills learned in response and working together has and will continue to benefit their ability to respond to a number of emergency situations (e.g., disasters, pandemic, etc.).

Course participants tended to regard the intermediate and advanced levels as complementary to each other and felt they needed both levels to adequately prepare for a CBRN event. Also, responders indicated that live agent training was critical for preparing them to intervene in a CBRN incident and essential for building their confidence and skills.

However, many respondents noted that real increased and sustained capacity to respond to a CBRN incident must include more than just one-time training and that their skill levels and equipment support have to be maintained once they return to their home agency to ensure a continued capacity to respond.

2.3 To what extent has there been maintenance of training levels or continued support to those trained by their province/ territory/ municipality?

Many trained responders interviewed noted that there is inadequate support once they return to their home province and agency. While those in the larger urban centres like Toronto are well resourced and supported (e.g., have updated equipment, practice skills, etc.), many in the smaller centres do not have up-to-date equipment and opportunities to practice what they have learned when they get home. In fact, some provinces indicated that they have pulled back on their CBRN role and are not training smaller centres anymore. While training is a provincial mandate, they are relying on Public Safety Canada to not only conduct this CBRN training but also to provide ongoing funding for the supportive equipment (some initial equipment that was funded is now out-of-date). Some responders interviewed noted that there should be an up-front commitment from the provinces to sustain and support their responders if they are going to send them for training. Smaller provinces indicated that they are not able to provide these sustaining funds without federal help.

With this significant issue, some interviewees wondered whether it was necessary for each region to have a CBRN response capacity or whether there should just be a handful of specialized teams located in key cities that can afford to support and sustain these teams. However, others believed that it was important

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to have at least some level of response capacity across all of Canada as the possibility of an incident is not exclusive to large urban centres and it will take time for any specialized team to get to an incident site.

In all cases, it was clear that refresher training is very much needed to maintain skills. There is a desire for the federal program to fund such training and have it provided locally (not centrally) but with uniformity across the country.

A national roundtable was held in March 2007 bringing together federal, provincial and municipal representatives with first responders to discuss CBRN issues, including training needs and challenges.

Key priorities for action that were developed by meeting participants included:

1. Build national standards for CBRN equipment and expertise.
2. Build a supportive risk based strategy.
3. Build political priority by reviewing the CBRN and National Training Strategies and making these more robust to address all hazards, and by including health resources more in emergency management.
4. Build sustainability into training.
5. Ensure a training model that respects the needs of all clients (may include alternative delivery models and additional training courses).
6. Stream decision-makers into training (Incident command module and specialized training).

Some participants recommended that Public Safety Canada serve as the training service and resource repository and coordinate all emergency management related training and exercises.

The Roundtable participants were passionate about CBRN training and believed that this kind of session was important and should be repeated. There are plans to hold such meetings annually in the future.

2.4 Are the responsible groups provided with the necessary authority and resources to ensure success?

All federal partners believe that they had the necessary mandate to be involved in the CBRN FRTP. [*].

Over the last few years, partner relations and procedures to enhance coordination on the FRTP have significantly improved. The Steering Committee has been rejuvenated, providing a more open and inclusive forum for partners to contribute and discuss FRTP issues, and planning and tracking mechanisms to assist in Working Group operations have been put in place. However, there are still some significant challenges with horizontal coordination of the FRTP as the designated lead (CEMC) does not have the resources or authority to direct other partner's activities. PHAC has also noted that they have challenges in delivering training to the health community due to provincial authority over health care.

As the FRTP is now in full course delivery mode, the full amount of resources required by each federal partner is evident. The number of courses delivered at the intermediate and advanced levels to traditional first responders (6 to 8 courses annually) are now limited by the available resources in CEMC and DRDC, respectively.¹⁰ Increased course delivery and/or the development and delivery of new courses would

¹⁰The number of courses delivered is also limited by the ability to confirm participants (as nominated by P/T and municipal entities that may have different understandings of training needs and numbers). In fact, in contrast to the stated need for increased training on the part of the P/Ts, there was a case during the last fiscal year that the cancellation of a course was required due to lack of proposed candidates and at other times actual delivery was at risk because the required number of candidates were filled just days before the delivery of the course.

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require additional resources for these departments. PHAC is not yet at full capacity in terms of delivering to the health community.

2.5 Have there been any unexpected outcomes or gaps in those being trained?

Over the course of the program to date, there have been several unexpected outcomes which have been both negative and positive.

On the negative side, the limited delivery of the Basic course by provinces/territories meant that fewer responders were being trained than expected. Therefore, the program decided to develop an e-learning approach for the basic course to enhance the reach. Now, due to improved P/T relations, Quebec for the first time is interested in doing the Basic TTT program. Ontario has also demonstrated an interest to do the same. The Office of the Fire Marshal is also interested in assisting with the delivery of the Basic level course. The Brainstorming session conducted in February with key instructors also identified many ways to assist in the delivery of the Basic Course, in particular the marketing of the need for the delivery of the classroom Basic Level course to senior officials within P/Ts and key management in municipal fire, EMS and police services.

Also on the negative side, the FRTP has still yet to integrate the health first receiver training component fully. While discussions are ongoing and there is an active working relationship and willingness to proceed, the health related training delivered by PHAC is still separate from the rest of the FRTP and [*].

On the positive side, as the partner departments/agencies have built a capacity to effectively delivery CBRN training, they have been sought out as experts to provide CBRN training beyond the first responder audience. For example, CNSC officials have been approached to provide R/N training to transportation hazardous materials specialists who respond to R/N spills, and this training has reach 691 individuals to-date. Also, the CNSC team has assisted DFAIT in counter-terrorism capacity building in selected south-east Asian countries.

Also on the positive side, the FRTP has been adopted by or coordinated with several other agencies who wish to use the program to train their audience groups who wish to ensure national consistency:

- The Basic course content is being used by the RCMP for their cadet training, to ensure consistency.
- Large municipalities (e.g., Toronto) are closely linked with the CEMC to ensure their own CBRN teams and training is in collaboration with CEMC activities.
- Securite Civile, the Coast Guard, and Transport Canada have used, or are interested in using, the FRTP Awareness and/or Basic course to train their government agency employees to be able to recognize or assist with a CBRN incident.

CBRN Training for the Canadian Coast Guard (CCG)

In 2005, an inter-ministerial working group on maritime security found that there was an insufficient CBRN marine response capability in Canada. Therefore, the Coast Guard adopted the CBRN FRTP Awareness course, adapted it for the marine environment, and began delivery to their maritime security personnel. In 2006, 60 personnel were trained and the eventual aim is to reach all 2500 personnel on CCG ships. The Basic course will also be adopted to train Search and Rescue personnel (target 800).

Furthermore, another significant positive and unexpected outcome is the fact that First Responders who have been trained by the FRTP have now, on their own initiative, built a national *community of practice*

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and are establishing an ‘Association of Canadian CBRN Technicians’ with a central information portal to provide resources to First Responders in the field, share experiences, discuss national standards, etc.

2.6 Has there been integration of lessons learned into training materials?

In terms of lessons learned in managing the FRTP, the formative evaluation documented the course development process where all courses were piloted and evaluated by an independent training evaluation specialist to minimize negative unexpected outcomes and learn lessons to enhance training. Significant changes were made based on learning from the pilots and recommendations from the evaluation, and the courses continue to be updated and revised based on new information and training techniques periodically. For example, a brainstorming session took place in February 2007 to review the Basic Course with all key instructors. During this workshop it was confirmed that only minor edits were required to the content of the course. Similarly, a full review of the Intermediate course is planned for 2007. The FRTP continues to enhance the courses by increasing the amount of input provided to courses by ‘training’ experts as well as technical ‘subject matter’ experts.

2.7 What are the risks and liabilities associated with the delivery of the FRTP? How effective have program strategies been at mitigating them?

The following risk assessment was part of the original Progress Assessment Strategy in May 2003 to help ensure that known risks could be identified and appropriately managed. The degree to which these risks have been managed effectively over the past 5 years, or have changed, is noted in the table.

Potential Risks	Probability	Severity	Management Strategies
<i>Key Operational Risks:</i>			
Extraordinary resource demands divert efforts to other departmental files	Changed from High to Medium	High	This risk has not been realized, however partners will continue to: <ul style="list-style-type: none"> ▪ Seek commitment from Senior Management on priority for CBRN Training. ▪ Communicate pressures and needs from provinces and others for training.
Challenges obtaining sufficient human resources: too few qualified people and skills sets for CBRN training exist; slow or delayed hiring process; and high workload demands placed on staff to address the need	High	High	This risk continues to be high for some partners. While a cadre of skilled instructors has been built through the FRTP, the staffing challenges, high workload and resulting program fatigue, are the greatest issues in ensuring effective FRTP delivery. <p>Partners will continue to:</p> <ul style="list-style-type: none"> ▪ Utilize flexible arrangements to hire and engage required personnel while building capacity. ▪ Create new positions to attract and retain the required skills. ▪ Communicate delays in progress due to hiring delays.
CBRN Teams do not receive full commitment, support and equipment to be sustained at the municipal and provincial levels	Medium	High	This risk continues as many responders are still not receiving support from their P/T (particularly in smaller centres). <p>Partners will continue to create greater awareness and understanding of CBRN support required through training and related learning.</p>

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Potential Risks	Probability	Severity	Management Strategies
Facilities are not adequately funded to support advanced level training	Changed from High to Medium	Medium	This risk has lessened as funding the facility has been advanced. Partners will continue to support DRDC to: <ul style="list-style-type: none"> Seek senior level commitment to fully fund the advanced level training facility.
Problems in obtaining adequate training equipment could potentially delay training schedule	Changed from Medium to Low	Medium	This risk has lessened as training related equipment has been obtained. Partners will continue to: <ul style="list-style-type: none"> Ensure that appropriate procurement strategies are implemented and modify advanced curriculum to accommodate alternatives. Link with the CRTI program for creating CBRN equipment standards.
New: Provinces/Territories do not embrace the TTT course(s) to extend delivery	High	Medium	This new risk has been realized over the initial few years of the FRTP. Partners will: <ul style="list-style-type: none"> Network with all instructors across Canada to increase uptake. Implement a marketing campaign on who best can deliver in each P/T. Examine whether funding incentives could allay delivery concerns.
New: Hospitals and public health professionals are not trained or prepared for a CBRN incident	High	Medium	This new risk has been realized over the initial few years of the FRTP. Work is underway to deliver a parallel training program for health responders at the Intermediate level with some overlap for interoperability.
New: Steering Committee does not adequately guide and direct FRTP to make best use of resources and alternative delivery options	Medium/Low	Medium/High	This new risk has been recognized by the partners and Steering Committee members over the last few years. Partners are working to strengthen the Committee and provide support to ensure it can conduct its desired role effectively.
<i>Key External Risks:</i>			
Terrorist or military threat occurs (e.g., potential war with Iraq, CBRN incident)	Changed from Medium to Medium/High	High	This risk has increased with the war in Iraq, Canada's involvement in Afghanistan and other events (see Annex C). Partners continue to plan for the ongoing delivery of CBRN training.

3. Cost-effectiveness / Alternatives (design and delivery)

3.1 Are there appropriate management and decision-making structures in place to coordinate CBRN training and deliver the planned outputs within the estimated timeframe and budget? Are management structures and original plans respected? Are departments working well together to achieve effective horizontal management?

While each department is accountable to their own management structure for their program activities and resource expenditures, the following management and decision-making structures have been put in place to coordinate the FRTP between the partners:

- A CBRN FRTP Steering Committee was established to steer this initiative and meet regularly to guide the program. The Executive Director of CEMC chairs this committee and all partner departments/agencies participate.

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- A Working Group (or Training Group), reporting to the Steering Committee, was established to deal with operational and technical issues, and meet regularly to address such issues. CEMC also chairs this working group and all partners participate.

Over the last couple of years, these committees have been rejuvenated, with roles more clearly defined. They have been more inclusive, transparent and accommodating to all partner needs. Interviews noted that the Working Group is operating very effectively and new efforts to track issues and plan more formally have been very beneficial. Interviews also indicated that the Steering Committee has improved to better coordinate the FRTP, share decision-making and improve cooperation. However, further efforts to more clearly delineate roles and membership on the Working Group versus the Steering Committee would be beneficial (i.e, they should not include the same members). Also, the role of HC on the Steering Committee needs to be clarified¹¹. As well, some respondents noted that there should be a mechanism to ensure Working Group and member's perspectives accurately communicated at the Steering Committee level.

While improvements are evident, challenges in overall governance of the FRTP remain. Delays in decision-making, inadequate follow-up on proposed actions and issues, inconsistent reporting of results and resources were noted difficulties. Coordination challenges have been attributed to insufficient human resources and staff turnover at CEMC; and, the need for further improvements in the Steering Committee. The committee needs an even stronger role in guiding the integrated program, ensuring transparency and facilitating joint decision-making. It could take an enhanced role with business planning, setting strategic directions, assessing alternatives and recommending resource allocations thereby providing more influence to strategically guide the program. Partners also indicated that Public Safety Canada should assume a stronger leadership role with respect to the program.

The key remaining issues with the governance model revolve around the lack of formal joint accountability for delivery of a horizontal program:

1. [*], the department does not have accountability for, nor control over, the vast majority of the funds and is only one partner in terms of decision-making. A number of federal partners on the FRTP have identified that they are accountable to their respective organizations and not to the CEMC or the Steering Committee for their resource expenditures decisions. CEMC has no mechanism to provide overall accountability for the FRTP. This makes it very difficult to develop an effective business planning cycle which takes into consideration all available funding in order to guide the program according to identified priorities.
2. The Steering Committee does not report to any senior executive body. This has resulted in a lack of resolution around policy, resource and strategic issues at the senior executive level. The Steering Committee has considered the possibility of reporting to the ADM Interdepartmental Emergency Preparedness Committee (recently resurrected) or an alternative body (e.g., the FPT ADM level committee (Preparedness and Recovery) under SOREM - Senior Officials Responsible for Emergency Management).

An additional gap in the management structure identified by many interviewees was the fact that there is no formal mechanism to liaise with / get input from external stakeholders (First Responders and their

¹¹ The College has recently invited two additional groups from Health Canada (Radiation Protection Bureau and the Chemical Emergency Response Unit) to Steering Committee meetings as it was recently determined that CBRN FRTP funds had been allocated to the Radiation Protection Bureau and that PHAC was engaging the chemical emergency response unit whenever industrial chemicals input was required. The exact nature of their role and involvement in the FRTP is still being defined.

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National Associations, Health Agencies, Technical Experts, etc.). The establishment of an External Expert Advisory Committee has been suggested to help bridge this gap and further build the partnerships required in enhancing the program. The Roundtable held in March 2007 was a substantive first step in this direction.

3.2 Have the government processes for staffing and equipment acquisition facilitated timely delivery?

As documented in the formative evaluation, there have been early delays in rolling out the FRTP, and ongoing government processes continue to impact timely delivery. This is primarily due to:

- An underestimation of the time required to develop course materials and the differences in course development approaches by partners.
- The slow or delayed hiring and contractual processes which impacted the partner's ability to deliver and utilize all resources fully. For example, it took between 12 to 18 months to fill vacancies and almost 1 year to get the RFP for the web delivery of the Awareness and Basic courses to be completed with PWGSC.
- Inability to hire the planned number of staff to coordinate the FRTP. For CEMC, the lead FRTP coordinator, 6 full time staff members were to be hired and this has never been realized. For a number of years, there were only 1-3 dedicated positions and currently there are only 3 staffed positions.
- Initial delays in acquiring equipment which resulted due to internal government processes.

3.3 Have the PSAT resources (\$O&M and FTEs) been dedicated to the new CBRN Training activities [*]? Have the resources been sufficient to conduct the required work?

Virtually all spent PSAT resources have been expended on the CBRN FRTP, however, there have been minor reallocations to other PSAT, CBRN or departmental initiatives over the 5 years (representing about 5% overall, as noted in annual reports). While funds in PHAC have been allocated to CBRN related training to the health community, they have not been allocated as originally planned (see Section 2).

While there was significant under-spending in first few years due to the issues noted previously, currently all partners except PHAC are spending their allocated resources. Over the first 5 years, 68% of the total allocated resources have been spent, and resources expenditures overall have increased each year, with 87% of allocated funds spent in the last fiscal year, as detailed in the table below¹².

For most partners, the resources to-date have been sufficient to conduct the required work. However, an increase or change in course delivery (i.e., more courses, refresher courses, regional delivery, enhanced coordination, etc.) will require additional resources for some partners. Some partners are recognized as being under-resourced (e.g., CEMC and CNSC) compared to their roles, and others continue to under-spend their resources (e.g., PHAC), therefore, a review of funding allocations by partners is required.

Partner	2002-03 \$K		2003-04 \$K		2004-05 \$K		2005-06 \$K		2006-07 \$K		Total \$K	
	Planned	Spent	Planned	Spent	Planned	Spent	Planned	Spent	Planned	Spent	Planned	Spent
CEMC*	1,990	1,254	2,847	987	2,750	1,478	2,750	3,057	2,750	2,652	13,087	9,428

¹² Spending in this table is estimated based on Annual Reports (EBP & Accommodation included). Some variation exists between annual reports and evaluations, and some information is incomplete or inconsistent.

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DRDC	3,088	690	2,368	1,468	2,268	1,258	2,268	2,268	2,268	2,368	12,260	8,052
PHAC**	3,150	1,330	3,900	2,345	4,610	2,609	4,610	1,633	4,610	3,157	20,880	11,074
RCMP	1,940	1,940	2,360	2,069	1,847	1,836	1,847	1,854	1,847	1,826	9,841	9,525
CNSC	832	274	525	450	525	503	525	434	525	434	2,932	2,095
Total	11,000	5,488	12,000	7,319	12,000	7,684	12,000	9,246	12,000	10,437	59,000	40,174

*including SGC's allocation of \$400K (2006-07)

**including HC's allocation of \$286K (2006-07)

3.4 Is the program being delivered cost effectively? Is there overlap or duplication in training at the federal and provincial/territorial level? Are resource reallocations required between and among the partners?

Given the highly specialized nature of the training which is difficult to reproduce or contract out, and which requires unique infrastructure and training space, the current model is seen by most as cost effective. The centralized delivery of the intermediate and advanced courses and the e-learning approach adopted has contributed to cost effectiveness. However, many want alternative delivery models considered to meet the challenges in reaching responders across the country more quickly (see 3.5).

As noted in Section 1.3, there is little overlap or duplication in training, particularly at the Intermediate and Advanced levels – this federal initiative is widely acknowledged as the only place currently able to provide a nationally consistent, interoperable CBRN FRTP. However, some respondents noted that there can be overlap with the Basic level for those who have already taken hazmat or in-service training – the advantage of the CBRN FRTP Basic classroom course is that it provides the opportunity to interact with first responder from other services. Also, there may be some duplication of Awareness level training (the Ontario Fire Marshall's Office offers an online awareness course on terrorism/hazardous materials – see footnote page 34). It is not yet known how the new funding for CBRN training provided to the International Association of Fire Fighters will be linked or coordinated with the FRTP (see text box on page 34).

After 5 years of FRTP development and delivery, the program is now operating at full capacity (except for health training). Based on the success achieved and spending patterns, it is useful to examine if and how resource reallocations could maximize delivery rates and cost effectiveness. In assessing potential reallocations, the following should be considered:

- Partner roles commensurate with funding levels
- Proven ability to deliver the program in line with original intent and first responder needs
- Degree of spending dedicated to FRTP course delivery
- Ability to spend FRTP resources in line with program goals

As the FRTP has to prioritize its activities to ensure timelines can be met while maintaining the high quality of output expected by stakeholders, re-profiling should be considered at this point. It is extremely important that adequate resources (both staff and operational program funding) will be made available through reprioritization and / or re-profiling of existing program funding [*] in support of CBRN activities to ensure that program will be maintained and that other commitments, such as Incident Commander Training and refresher training, can be delivered.

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3.5 Has there been consideration of options/alternatives to increase cost-effectiveness or efficiency in delivery?

Stakeholders and the federal partners have been discussing alternative delivery options to increase the number of courses that can be delivered and to address the key barriers identified to date to increase throughput (e.g., need for regional delivery, open course loading, etc.). In fact, the Working Group has a defined work plan item to assess the feasibility of using outside delivery agents to assist and or supplement delivery of courses in 2007. They will also be doing cost analysis of intermediate training in the regions to assist in the assessment of alternatives.

The alternative delivery option most frequently requested by provinces/municipalities and First Responders has been decentralized delivery of the intermediate course. The awareness and basic levels are already decentralized, and it is widely recognized that the advanced course has to remain at Suffield due to live agent training; however a number of respondents felt some type of intermediate course could be delivered regionally. There are clearly two very different opinions on whether the intermediate course needs to remain delivered centrally in Ottawa, or whether it could be effectively delivered by existing emergency response training institutions across the country (e.g., those that deliver hazmat training). The points for each side include:

Intermediate Course Advantages of Central Delivery	Intermediate Course Advantages of De-Centralized Delivery
<ul style="list-style-type: none">• Cost effectiveness enhanced• National consistency and quality ensured• Interoperability ensured	<ul style="list-style-type: none">• Greater reach - enhanced ability of First Responders to attend training• Increased capacity for training/throughput• Integrated with other emergency response training to enhance sustainability• Increase ability to adapt to regional circumstances

There are significant benefits to regional delivery, however the main concerns with decentralized delivery is that a nationally consistent program would not be maintained over time (this has been the experience with other programs devolved to community colleges). In addition, it is seen as more costly and difficult in terms of logistics (instructors come from all over the country, facilities and equipment already exist in Ottawa, etc.). Also, some of the issues that limit attendance at the FRTP now (e.g. having to backfill staff, responders having to travel, and difficulty in getting Basic TTT delivered) would also be encountered with most decentralized delivery models. One alternative suggested to try to balance the advantages of each option is to have two delivery nodes – one in the West and one in the East. In addition, private sector delivery managed by the federal partners could be investigated to enhance delivery (there is one significant private sector course – primarily delivered internationally by Allan Vanguard Ltd).

Regardless of the delivery option chosen, stakeholders generally agree that the following principles need to be maintained:

- Provision of nationally consistent/ standardized training;
- Maintenance of Federal/Provincial/Territorial/Municipal Interoperability;
- Accessibility to those in need;
- Relevance to first responder needs;
- Provision of peer-to-peer instruction;
- Training to best practices and maintenance of consistency of highly technical curriculum; and
- Provision of opportunities for exercising to confirm and enhance theory based training.

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In addition to the assessment around regional delivery of the Intermediate course, the CEMC is also considering the following delivery alternatives:

1. A blended learning approach – with some course content done on-line, and the exercise component done in the classroom to reduce duration.
2. Contracting out or working with schools such as the Office of Fire Marshal¹³, Justice Institute, etc. for delivery of the Basic TTT, classroom delivery of the Basic or Special Ops courses. Of note in this regard is the new funding for the IAFF for CBRN training (see text box).
3. Integrating components of the Basic course into regular fire/police/EMS curriculum (part of recruitment training).

Also, along with assessing alternatives for existing courses, the program is considering how best to deliver new courses that are required by first responders:

1. Basic level training for Riot control (plans to address in 2007/08).
2. 'More than basic' training level (in-between basic and intermediate levels) for tactical teams (HAZMAT and EMS, especially) that may need more operational/tactical instruction than the basic course provides, but do not need the full intermediate course.
3. CBRN awareness for incident commanders or 'command and control' module (plans to address in 2007/08), likely linked to the tail end of the Intermediate course to jointly perform the scenario and simulate joint response.
4. Hospital / Medical first receiver course (concurrent with Intermediate) (plans to address in 2007/08).
5. Refresher training (every one to three years to maintain certification/competency) which could be complemented by smaller/more frequent updates done via new CBRN First Responder network – Refresher training could be done in a decentralized manner at home agencies so that responders can use their own equipment in their own environment.

International Association of Fire Fighters (IAFF) Canadian Operations CBRN Training

IAFF have recently been provided federal funds of \$1M over 2 years for CBRN Hazmat training (similar to federally funded US program). A survey conducted in 2005 showed that the vast majority of cities and towns (75%) were unprepared to respond to a CBRN incident. The IAFF concept involves travelling to municipalities who nominate First Responders to implement a train-the-trainer concept. The program will meld hazmat training with CBRN and the intent is to reach 1600-1700 responders per year.

The IAFF and the CEMC will explore this year how best to work together to complement each other's training programs.

It is clear that if there is to be expanded delivery or alternative delivery (e.g., refresher training, decentralized delivery); there are not sufficient resources with the delivery partners that are currently spending all their allocated resources on FRTP activities to meet these needs.

Summary of Responses to Formative Evaluations

The sections above comment on relevance, success and cost effectiveness of the FRTP program, particularly over the last few years since the formative evaluations. Each federal partner's evaluation report commented on the degree to which the individual department/agency implemented the

¹³ There is a full hazardous goods response capacity and training scheme throughout Canada, and some feel that CBRN should have been incorporated into that existing structure, rather than sitting out as an entity unto itself. However, those most engaged in the FRTP indicate that the CBRN training is more than just hazmat training and incorporates the element of 'deliberate intent' and the police response component – the training requires a significant culture change from previous training approaches.

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recommendations from their formative evaluation conducted in 2005. While specific details can be found in each department/agencies' evaluation, overall the following points can be summarized:

- While recommended, a formal needs/risk-based assessment for training has not been conducted. Rather the program has relied on Environmental Scans done by the RCMP and shared risk/threat assessments for equipment and training done by the CRTI. In addition, the FRTTP has worked with provinces/territories who have agreed to supply their training needs/numbers annually to help with planning.
- A strategic plan was completed in 2005 with all partners' contribution. However, this plan was fairly high level and did not translate into an operational plan. Rather, an issue-based planning and tracking tool has been developed for the Working Group. A renewed Strategic Plan is required for 2007 that will guide the initiative over the next 5 years.
- Some review of training materials has taken place and the materials have been reviewed and improved upon based on input from subject matter experts and instructors.
- Tracking of expenditures and training statistics has improved with PSAT funds being tracked separately by most partners and detailed reports now available on training statistics and evaluations. However, no formal mechanism has been put in place to track the long term impacts of the program (e.g., follow-ups with participants, skills retention assessment, etc.).
- The Steering Committee and Working Group have been rejuvenated, formalized (e.g., Terms of Reference created) and relationships between the partners have improved significantly.
- More regular communications have taken place with P/Ts to define training needs and expectations and to assist in course loadings. In addition, PS held a National Roundtable in March 2007 to bring together provinces, territories, municipalities and first responder agencies to discuss CBRN issues and training needs specifically.

CONCLUSIONS

The following represents a summary of the conclusions from all partner evaluations, against the three evaluation objectives:

1. The program has continued relevance and there is a strong rationale and demand for ongoing delivery.

There is a clear and relevant vision for the program which is shared by all stakeholders and has remained true since program initiation. In addition, the FRTP activities and expected outcomes are consistent with and relevant to the Government's and partner department/agency's mandates and priorities.

There is a continued threat/risk environment, along with stakeholder interest that indicates an ongoing and strong need for continued CBRN training of first responders. Federal involvement and leadership in the development and delivery of CBRN training is appropriate given the need to ensure consistency across jurisdictions and to maximize the safety of Canadians. There is currently no other program in Canada with the capability to deliver this training nationally and for all services.

There remain ongoing needs to extend the reach of the FRTP; better integrate and share responsibility with other governments, other government departments and the private sector for CBRN training; and, promote sustainability in training.

2. The CBRN FRTP has built a solid foundation and demonstrated significant progress toward the achievement of all stated outcomes, but gaps remain in reaching the health community.

A solid CBRN training program is now in place and has been delivered to a large number of first responders across the country (e.g., 5700 police, fire and emergency medical responders trained). This has resulted in a community of skilled, trained and linked first responders who have an improved ability and confidence to respond to a CBRN incident in an interoperable fashion. While training has increased significantly in the past few years, a critical mass in terms of training a sufficient cadre of first responders has not yet been achieved.

Federal delivery partners have built a capacity for this specialized training that did not exist prior to PSAT funding and, as a result, Canada has evolved as a leader in providing systematic and standardized CBRN training of national scope to first responders.

The FRTP has generally met its immediate outcomes, is meeting its intermediate outcomes and is likely to meet its ultimate outcome – 'to enhance the state of preparedness, readiness and capability to respond to CBRN incidents in Canada, and thereby increase the safety of Canadians'. However, this is qualified in that interoperability has only been achieved between fire, police and EMS responders and not with healthcare providers and public health personnel. Limited progress has been made in addressing the health communities CBRN training needs at the Intermediate and Advanced levels, and some courses (e.g., those to be directed at hospitals) have not been delivered as planned.

While training quality and delivery rates are positive, thus indicating that long term expected outcomes can result, there is no information to assess the *actual* effectiveness of the training program in preparing a cadre of first responders to intervene appropriately to terrorist incidents.

Ongoing challenges include:

- Difficulty in meeting the demands of all provinces, municipalities and first responders that have differing views on who should be trained and in what manner. Also, difficulty in linking EMOs

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and Health Stakeholders at the provincial level as there are separate FPT networks for each that don't engage with each other

- Lack of support for trained responders in provinces/territories/municipalities once they return from training to ensure a sustained capacity to respond.
- Inability to fully integrate hospital and public health professionals into the FRTPT.
- Inability to deliver an Incident Command course/module as planned.
- Continued lack of priority and/or senior management attention in some departments/agencies to deal with operational issues that are hindering program delivery (e.g., CEMC lack of staffing complement, PHAC lack of priority on FRTPT).

3. Cost effectiveness measures have been implemented and alternative delivery approaches are to be considered to enhance the effectiveness of the program, and direct program resources accordingly.

There are effective organizational design and management processes in place to deliver the initiative in a coordinated manner which have been rejuvenated and strengthened over the past few years. However, the Steering Committee must further improve processes to ensure transparency with all partners and facilitate strategic planning and joint decision-making in the future. In addition, the Committee does not report to any senior executive body, or have any formal external advisory body, to enhance its accountability.

While there was significant under-spending in first few years due to the issues noted previously, currently all partners except PHAC are spending their allocated resources. Over the first 5 years, 68% of the total allocated resources have been spent, and resources expenditures overall have increased each year, with 87% of allocated funds spent in the last fiscal year.

The current delivery model is seen by most as cost effective by having centralized delivery of the intermediate and advanced courses and by adopting an e-learning approach. With full delivery now underway, many believe it is time to examine if resource reallocations are required between and among the partners to maximize delivery rates and cost effectiveness. In addition, many want alternative delivery models considered to meet the challenges in reaching responders across the country more quickly and to deliver courses in new areas where unique needs and gaps have emerged.

RECOMMENDATIONS

The following recommendations, integrated from all department/agency evaluations¹⁴, are provided to continue to effectively deliver and enhance the CBRN FRTP:

1. All partners should continue to participate in and enhance the Steering Committee to ensure transparency and facilitate joint decision-making. Over the next year, the Committee should take an even stronger role in guiding the integrated program and take on an enhanced role with respect to business planning, setting strategic directions, assessing alternatives and recommending resource allocations. In addition, it is critical that the Committee formalize its reporting relationship to an appropriate senior executive body to enhance its accountability.
2. Over the next year, the Steering Committee should develop a new strategic plan, building from this evaluation and the issue-based work of the Working Group, to guide the next few years of the CBRN FRTP. This plan should address governance structure(s), realistic goals and reach targets, alternatives for delivery to increase the volume and reach of courses, and operational plans to ensure continuous course improvements. As part of this strategic planning, the Committee should examine the allocation of resources amongst CBRN FRTP activities and determine if financial resources are allocated appropriately based on the new strategic and operational plans, including new delivery methods, and make adjustments as needed. The Committee should also consider formally documenting the renewed roles, responsibilities based on resource allocations amongst the partners (e.g., MOU).
3. After completion of the Strategic Plan, the Working Group should update the Performance Assessment Strategy to include outcome indicators and ensure that appropriate measurement methods are included along with specific reporting timelines and targets. Provinces/Territories and municipalities should be consulted in determining accurate training targets.
4. Over the next year, the Steering Committee should conduct a study of alternative delivery mechanisms to extend the reach of the current FRTP classroom delivery; better integrate and share responsibility with other governments departments and the private sector for CBRN response; and, promote sustainability in training (including using other potential delivery agents and modes of delivery (e.g., decentralized delivery). The delivery of an Incident Command component and Refresher Training program should be included in this assessment. As well, this assessment should determine how best to fully integrate hospital and public health professionals into the FRTP or if separate course delivery needs to continue (and to what degree).
5. Over the next year, the Working Group should develop a plan for a formal review of all course contents over time. This review should determine whether the content of the FRTP is up-to-date and complementary to other training initiatives, and what modifications or additions should be considered.
6. Over the next year, the Working Group should continue to work with Public Safety and the CRTI on an ongoing basis to build shared risk/threat assessments and standards for equipment and training, and to coordinate and link with new training initiatives as they evolve.
7. Over the next year, the federal partners should institute formal communication mechanisms with provinces, territories, municipalities and first responder agencies (including an annual Roundtable meeting) to discuss:

¹⁴ Recommendations specific to only one partner have not be included.

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- Needs and expectations for training, and for First Responders after training;
 - Upcoming courses and target audiences;
 - Appropriate roles and performance of these roles by all parties;
 - Opportunities for improvement and networking, particularly with the health community.
8. Over the next two years, the Steering Committee should put in place a formal external advisory body to provide advice and feedback to the Steering Committee to ensure FRTP currency and relevance to stakeholders.

APPENDICES

A. Types of Files Reviewed

1. Foundation documents: [*] Progress Assessment Strategy, Evaluation Plans, Formative Evaluations, Strategic Plan, Federal CBRN Strategy
2. Annual Progress Reports from all partners and integrated reports
3. Course evaluations, feedback sheets and summaries
4. Training statistics (numbers of students, home agencies and locations, by course level and year)
5. Steering Committee and Working Group notes/minutes
6. Financial documents on CBRN Training expenditures
7. National Roundtable Meeting Notes

B. Types of Interviews Conducted

(for confidentiality, specific names have not been included)

1. CBRN FRTP staff in all partner departments/agencies
2. Departmental/ Agency Finance and Policy staff
3. First Responders from municipal fire, police and EMS services
4. Course participants (both traditional first responders and PHAC/HC course participants)
5. Provincial Emergency Measures organization representatives , and Health Provincial and Municipal Representatives
6. Steering Committee Members
7. Working Group Members
8. Other federal parties – CRTI, Coast Guard, Transport Canada, Canada Border Services Agency
9. Other potential delivery agents – International Association of Firefighters, Alberta Office of the Fire Marshal, Justice Institute of British Columbia, Allan Vanguard Ltd.

C. Environmental Scan

1. Background

A baseline environmental scan was conducted for the Chemical, Biological, Radiological and Nuclear (CBRN) First Responder Training Program (FRTP) as part of its original evaluation plan in December 2003. This provided the environmental context for the original program design and also represented the baseline against which this current scan can be compared. Now, after five years of FRTP implementation, this environmental scan outlines the current context, trends, CBRN threats, capacity and issues to frame the need for continued program delivery.

Primary sources of information for this scan are listed in the Annex. Some of these documents are classified as secret; therefore, only overarching statements and facts have been used in this scan so that it can be unclassified.

2. Trends, Risks and Threats – 2002 to 2007

The trends, risks and threats detailed below describe the current context and ongoing need for the Government of Canada's (GoC) investments in public safety and anti-terrorism programs, including the CBRN FRTP. This section is divided into two parts: (1) broad environmental trends and (2) CBRN specific trends.

Environmental Trends

In the RCMP's most recent Environmental Scan for 2007, a number of trends have been noted that may have an impact on national security:

Politics and Governance:

- The world continues to be unbalanced with the US dominating in all realms of power and influence. There is a lack of consensus on the longevity of this US power and the rise of rivals is evident (China, India, Russia, European Union).
- Recent (2007) democratic gains in the US Congress are viewed as a rejection of current foreign policy, the war in Iraq and domestic economic policies. One of the early priorities for the Democrats is implementation of the recommendations from the 9/11 Commission Report.
- Despite international efforts, the Middle East remains plagued by civil war, conflict and instability, with some areas experiencing devastating levels of terrorism (Iraq) and others showing the growth of Islamist extremism.
- Nuclear proliferation and nuclear ambitions of states (North Korea, Iran) are a continuing threat.
- There is an increasing spread of terrorist threats, with governments devoting substantial amounts of time and money to fight terrorism.
- In Canada, the federal government is undergoing a transition from a long Liberal reign to the 'new' Conservative Party, with an ideological shift in power and influence. Particularly relevant is the polarized view on Afghanistan in Canada, with the very close 2006 House of Commons vote to extend the mission by 2 years and public opinion almost evenly split in their support/opposition to the mission.
- Foreign policy issues are dominating Canadian federal political discourse with increasing recognition that the GoC cannot ensure the security of Canadians without being involved on the international stage. Almost half of Canadians surveyed by EKOS Research Associates in August 2006 believe that current foreign policy (i.e., more military action, closer US alignment) makes it more likely that Canada will be a target of terrorism.

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- Since 9/11, the GoC has been investing significantly in national security – over \$8B to address key security gaps (including national security measures and the military). Canadians approve of the GoC’s approach to security, but possess low levels of knowledge on these initiatives.

Demographics:

- The estimated global population was 6.5 billion as of February 25, 2006, with the overwhelming majority of current and projected growth taking place in developing countries (Latin American, Africa, Southern Asia). There is a continued urbanization trend with sustainable urbanization recognized as a new imperative.
- There is also an unprecedented global movement of people (mainly from the developing to developed world). In addition, millions remain vulnerable worldwide – the number of internally displaced persons worldwide has risen 22% since 2004 (due primarily to situations in Iraq and Somalia). Both trends have potential national security impacts.
- Canada’s population continues to grow but the rate has slowed (migration outstrips natural growth; population getting older). In addition, there is a rapidly growing non-European, non-Christian population. The results of a report by the Institute for Public Policy Research in early 2007 reveal that visible minority immigrants are slower to integrate, feel less Canadian, trust other citizens less and are less likely to vote. Also, they report more incidents of having been a victim of discrimination, racism, and/or social exclusion.
- The police strength in Canada has grown since 2000 (192 uniformed officers per 100,000), although we lag behind other developed countries.

Society:

- While the poverty levels are decreasing in the developing world, significant problems remain – wealth is overwhelmingly concentrated in developed countries.
- There are disparities in educational outcomes in the developing and developed countries, with 115M children not receiving formal schooling.
- There is a widening international variation in legislation on morality, with increasing religious intolerance and racism, particularly a rise in intolerance since 9/11. A number of high profile incidents have raised tensions:
 - o Terrorist attacks on London and Madrid transit systems;
 - o Violent demonstrations following publication of Mohamed cartoons in Danish newspaper (139 people died in protests);
 - o Resistance to Turkey’s entry into the European Union;
 - o The Pope quoting of the 14th century Byzantine emperor;
 - o Murder of Dutch politician and filmmaker in 2004;
 - o Riots in France in 2005.

Economy:

- There is a strong global economy which is expected to continue to grow, but at a slower pace. Western economies are still dominant but emerging economies are gaining ground (India, China).
- Non-economic events such as disasters, epidemics or security threats have the potential to produce a decline in economic growth (e.g., the estimated economic consequences of an ultra-severe influenza pandemic in 2006 translated to a 10.7% drop in GDP (USD \$4.4T).
- Canada has a strong national economy which has been gaining momentum (predictions for growth in 2007 between 2.7% and 3%), however, there is uneven growth across the country and several risks to growth (slowing housing sector, US economy slowdown, tight labour market).
- The energy supply is tightening, with oil infrastructure becoming a more attractive target for terrorists given the likely rise in American dependence on Canadian oil.

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Science and Technology:

- There have been a number of advances and innovative tools to address security issues (e.g., protective bomb disposal suits, system to contain and render harmless devices designed to release chemical and biological agents).

The Environment:

- Climate change is becoming an ever important environmental and economic issue, with growing evidence of related impacts. The 'doomsday clock' is now 5 minutes to midnight (the end of civilization) – in January 2007 it advanced 2 minutes due mainly to the perils of 27,000 nuclear weapons and the destruction of human habitats from climate change.
- Environmental degradation is driving increasing impacts and costs of disasters, and drawing attention to environmental security concerns.
- Ecosystems are stressed and freshwater supplies are dwindling (current withdrawals are not sustainable).

Public Safety and Security:

- Terrorism is a continued threat. The American government estimates about 19,000 deaths worldwide from non-state terrorist attacks between 9/11 and the end of 2005 (likely far short of the actual number).
- Islamist extremist groups and individuals pose the greatest terrorist threat worldwide. Trends in Islamist terrorism indicate more near-simultaneous coordinated attacks with follow-up attacks on first responders.
- In addition, domestic radicalization is a growing phenomenon and responsible for a number of high profile incidents (e.g., London transit attack). While the vast majority of Muslims do not support terrorism, Muslim communities in Western countries provide a fertile recruiting ground.
- The development/acquisition of nuclear weapons by terrorists remains a concern.
- Canada is not immune from a terrorist attack – Al Qaeda has identified Canada as a potential target on several occasions and a large number of international terrorist groups operate in Canada (CSIS has noted that “with the exception of the US, there are more terrorist groups active in Canada today than in any other country”). The arrest of 18 people with an alleged plot to carry out a major terrorist attack in Southern Ontario highlighted the potential in Canada.

CBRN Trends

Since the events of September 11, 2001 governments have continued to assess terrorist threats to Canada, including the threat of an unconventional attack using chemical, biological, radiological and nuclear (CBRN) materials.

There have not been any significant incidents of the threat or use of CBRN terrorism in Canada over the last few years.

While effective military, intelligence and law enforcement action has disrupted terrorist activities, and some terrorist groups seem less interested in CBRN than in the 1990s, the threat has not been eliminated. Many terrorist groups/networks have explored or at least aspired to acquire and use chemical, biological and sometimes radiological materials.

One of the main concerns in Canada, as in other countries, is that nuclear and radiological material could be used to fashion terrorist weapons (e.g. dirty bombs). Canada is the world's largest supplier of radioactive sources and nuclear materials and there are more than one million shipments of such materials each year. In addition, Canada has 22 commercial nuclear power plants, more than 20 other major

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nuclear facilities (e.g., research reactors), and over 2000 organizations (hospitals, universities) that use/store radioactive materials [Source: CNSC].

The likelihood of a mass-casualty terrorist attack using CBRN materials may be small, but it is not negligible, and the potential consequences are so severe as to justify continual governmental concern, monitoring, intervention where necessary, and preparation for mitigation in the unlikely event that one should occur. The vulnerability of society to CBRN threats or attacks remains high.

3. Awareness Levels

In addition to the environment trends noted above, public opinion research also informs the context for the CBRN Training initiatives by indicating the levels of understanding, perceptions and attitudes toward disaster preparedness, response and recovery.

The RCMP 2007 Environmental Scan notes that Canadians view the country and the world as increasingly dangerous; with terrorism being the main cause (40% believe Canada is more dangerous than 5 years ago and 60% believe the world is more dangerous than 5 years ago). In addition, EKOS Research Associates' poll in August 2006 indicated that 48% of Canadians agree that a terrorist attack on Canada is inevitable.

EKOS surveys in September 2005 and October 2006 indicate that individual preparedness is slowly improving from previous levels; however levels of preparedness are still low (64% of Canadians say they have done nothing to prepare for the possibility of a disaster).

A GPC Public Affairs report on Canadians' preparedness for an emergency indicated that:

- Canadians are aware of a wide range of disasters that could affect them and differentiate between the likelihood of different types of disasters – those stemming from human error (e.g., train derailment) being most likely and those resulting from terrorism being least likely.
- Canadians are aware of the potential for terrorist attacks – they were part of the top 6 most frequently mentioned disasters by Canadians in the survey (after tornadoes, hurricanes, earthquakes, floods and forest fires).
- This survey also found that 78% of Canadians do not believe or are not sure that their government will take care of them in an emergency.

4. Roles and Capabilities for CBRN Training in 2006-07

Policy Context:

Public Security and Anti-Terrorism (PSAT) funding by the Government of Canada following September 11th has been a key government response to address CBRN threats and issues. The December 2001 Federal Budget committed \$7.7 billion (over five years) for a multitude of PSAT initiatives, of which the CBRN Training Initiative received \$59 million. Much of this funding is ongoing, including \$12 M annually for CBRN Training.

Following PSAT funding, a national Chemical, Biological, Radiological and Nuclear (CBRN) Strategy of the Government of Canada was produced in 2005. The work was initiated in response to the elevated threat environment and unique challenges posed by CBRN terrorist threats. The aim is to protect Canada and Canadians by taking all possible measures to prevent, mitigate and respond effectively to a CBRN terrorist incident. The Strategy is a comprehensive, high-level framework that provides direction for current activities and future plans, policies and funding initiatives.

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The Government of Canada's CBRN Strategy supports Canada's National Security Policy (NSP) which was announced in April 2004. The NSP sets the direction for a national framework and action plan to ensure that the Government of Canada is prepared for and can respond to emerging or occurring threats to national public safety and security.

Also, of note, in April 2006 the *Emergency Management Act* was tabled to strengthen cross-jurisdictional coordination and collaboration in emergency management and recognize the role of governments, NGOs and the private sector in emergency management.

Roles:

Increased policy frameworks, scrutiny and concern about the potential use of CBRN materials by terrorists are no guarantee of thwarting an actual terrorist incident. The risk of CBRN agents and materials underscore the requirement to have a consolidated Canadian capability and capacity in place to respond to the threat and to ensure that First Responders are adequately prepared for a terrorist incident.

Preventing or responding to CBRN incidents requires concurrent, cooperative and supportive action by multiple agencies and governments. Provinces and territories have overall responsibility for managing the consequences of CBRN terrorist incidents, assisted, if necessary and as requested, by the federal government.

Effective response to CBRN incidents continues to be dependent in large measure on the skills, capabilities, and immediate response of 'first responders'. For the purposes of CBRN Training Program, 'First responders' are defined as "those who physically attend and intervene to resolve the problem". This includes professionals who are first on the scene in the event of an CBRN emergency - fire, police, hazardous materials (haz mat) teams, bomb squads, emergency medical personnel, hospital/medical staff and federal teams who would be called to attend, intervene or advise in the response (e.g., Health Canada's ERAP teams or National Defense's DRDC Suffield and DRDC Ottawa specialists).

While hundreds of first responders have had training through the CBRN FRTP, there are many more that have not yet been trained. Responders continue to require basic awareness training on CBRN response, followed by access to more advanced training on a sustained basis for those who would need to intervene should an incident occur. There is an ongoing need to ensure that first responders have access to coordinated and effective training at all levels designed to meet their particular needs. The training provided has, and will continue to, continuously improve to assess and meet these needs.

While first responder training for CBRN incidents is an area of shared responsibility, provinces and territories continue to call for a strong leadership role on the part of the federal government in the development of national standards and guidelines for CBRN training and equipment, as well as the provision of sustained funding support for training programs.

Federal Roles:

The relevant roles and capabilities for the various federal departments and agencies on training related to CBRN FRTP are detailed below. These have been developed and implemented over the last 5 years with PSAT funding:

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Responsible Organization	Roles & Responsibilities for Emergency Related Training and the CBRN FRTP 2006-07 (updated Jan 31, 2007)
Canadian Emergency Management College (CEMC), Public Safety and Emergency Preparedness Canada (PSEPC)	<ul style="list-style-type: none"> ▪ Lead responsibility for co-ordinating CBRN training with other federal partners ▪ Overall co-ordination of the Intermediate level course. ▪ Development of the following subject matter content for all levels of training: <ul style="list-style-type: none"> ▪ management and coordination of multi-agency, multi-jurisdiction responses to CBRN incidents ▪ Coordination and management of student travel and enrolment for the Intermediate and Advanced levels ▪ Coordination and delivery of Basic train-the-trainer. ▪ Coordination and support of P/T led classroom delivery of the Basic level. ▪ One-window contact for provincial and territorial emergency measure organizations (EMOs) ▪ Coordination of ongoing course evaluation, validation and needs assessment for all levels of training. ▪ Coordination and implementation of e-learning tool for Awareness and Basic Level courses. ▪ Coordination of marketing and promotion of the CBRN FRTP. ▪ Coordination and development of a strategic planning and business planning framework. ▪ Coordination and chair of the CBRN Steering committee and WG level groups. (Provide secretarial function to all committees). ▪ Monitor and report of the overall CBRN FRTP initiative.
Defence R&D Canada (DRDC), Suffield, Department of National Defence	<ul style="list-style-type: none"> ▪ Provision of advanced CBRN training to the responder community. ▪ Overall coordination of the delivery of the Advanced level training. ▪ Development of the following subject matter content for all levels of training: <ul style="list-style-type: none"> ▪ chemical warfare agents, ▪ chemical agent decontamination process and procedures ▪ detection and self protection ▪ CBRN personal protective equipment ▪ Assistance in the delivery of some sessions of the intermediate training program.
Centre for Emergency Preparedness and Response (CEPR), Public Health Agency of Canada (PHAC)	<ul style="list-style-type: none"> ▪ Design and delivery of the health components for all levels of training ▪ Development of specific modules at the Intermediate level involving: <ul style="list-style-type: none"> ▪ infectious disease identification and treatment ▪ safe handling, transportation and decontamination of biological agents, ▪ laboratory methods for detecting and identifying Biological agents ▪ psychosocial effects of terrorism ▪ One-window contact for provincial and territorial health and social services. ▪ Coordination of ongoing course evaluation, validation and needs assessment for all health responder specific training. ▪ Coordination and implementation of delivery of health related courses (e-learning, classroom).
Nuclear Emergency Preparedness and Response Division (NEPRD), and Chemical Emergency Response Unit, Health Canada (HC)	<ul style="list-style-type: none"> ▪ Provide health related expert advice for the following subject matter areas for all levels of training: effects and treatment of radiological and nuclear health; industrial chemical safety.
Explosives Disposal and Technology Section, Royal Canadian Mounted Police (RCMP)	<ul style="list-style-type: none"> ▪ Design and development for all levels of CBRN training regarding police specialities, including forensic identification specialist and police explosive technician training ▪ Delivery of policing components for intermediate and advanced courses, including, for example: intelligence indicators, critical incident protocols, reconnaissance, diagnostics, forensics and devices-disseminators
Canadian Nuclear Safety Commission (CNSC)	<ul style="list-style-type: none"> ▪ Design and delivery of radiation and nuclear content such as protection, detection, monitoring and responding to radiological and nuclear incidents ▪ Laboratory methods for detecting RN agents

Under PSAT, current financial allocations to undertake the roles in the CBRN FRTP for 2006-07 include:

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Department/Agency	Annual Budget
CEMC, PSEPC	\$2,750,000*
PHAC	\$4,610,000
DRDC	\$2,268,000
RCMP	\$1,847,000
CNSC	\$525,000
Total	\$12,000,000

*Includes \$400,000 previously allocated to the Solicitor General

These figures include all costs (e.g., EBP, accommodation, etc.) and do not account for any adjustments that may be recommended as part of the summative evaluations.

Provincial / Territorial Roles:

In addition to the federal government, provinces and territories (P/T) conduct a number emergency management training courses, including Basic Emergency Management and Emergency Operations Centre courses. In 2006, P/T conducted 477 emergency management training courses which were attended by 13,445 participants. In addition, at least 9 municipalities conducted 90 courses in 2006 and trained 1,232 people¹⁵. While not specific to CBRN, these figures illustrate the capacity for emergency training in P/T. When surveyed, 38.5% of P/T indicated that they also deliver CBRN training (primarily via P/T EMO staff or municipal train-the-trainer).

Provinces and Territories (and in some cases municipalities) have developed capacities to train their responders and others to address CBRN incidents through a variety of means (using FRTP materials, developing their own materials, classroom, on-line, etc.). While not coordinated or consistent across Canada, some of these efforts include:

- Ontario's Hospital CBRN Emergency Preparedness Program - intended to equip hospitals to be first receivers (secondary objective of CBRN response).
- BC's Health and Emergency Management-related CBRN Training - built on an integrated response model that includes all 6 health authorities in BC as well as BC ambulance service, in partnership with key agencies in BC, federally and internationally.
- Ontario's Fire College provides Incident Management education and training for fire services, and teaches HazMat Operations. Also, the Ontario Fire Commissioner's office offers the Awareness level CBRN course on-line.
- Some larger municipalities, like Toronto, also have CBRN specific training and exercises for their first responder teams.

A Federal-Provincial-Territorial (FPT) CBRN Working has been established to enhance FPT coordination regarding CBRN terrorist event response planning and preparedness as well as to support the development of a national CBRN Strategy. Federal, Provincial and Territorial Partners came together from March 6-8, 2007 in Ottawa to discuss progress made, challenges, gaps and priorities for action with CBRNE Terrorism, and allocated a specific day to dealing with training issues. This event is intended to be annual.

5. Ongoing Need for CBRN FRTP and Challenges

¹⁵ Delivery of Emergency Management Training in Canada (draft). Marion Boon for PSEPC. March 2007.

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Over the last several years, there has been an abundance of literature stating the increased need for emergency responder training related to CBRN (Asai and Arnold 2003; Gibson & Iwaniec 2003; Hamilton 2004; Hilton & Allison 2004; Kollek 2003; Perry & Lindell 2003; Vogel, Cohen, Habib & Massey 2004).

Since September 11th, the Centre for Non-proliferation studies has reported a steady increase in the incidences and threats of CBRN terrorism, including hoaxes (N.B. even the impact of CBRN hoaxes is significant as one of the primary goals of terrorism is to induce fear).

While there have been no recent, high-profile terrorist attacks on Canadian soil, information from CSIS (2002) and a review of terrorism by Kollek (2003) indicates that Canada has one of the highest number of active terrorist organizations in the world. As such, proper training for Canada's first responders is important since if a terrorist incident were to result, local first responders would be the first to arrive on the scene and bear the immediate burden of responding to the situation.

The need for continued training is well recognized. The Public Security Technical Program, as part of its National Workshop in November 2004, noted that a coordinated program of training is needed and one of the key mitigating capabilities to deal with CBRN risks and threats. The National Roundtable for CBRN held in March 2007 dedicated a day to training that emphasized the need to continue CBRN training and noted key success factors (e.g., standardized training, F/P interoperability, accessibility to all, meeting demands, having a sustainable program, achieving goals, ensuring relevance, having standards set and achieved, basing training on threats, carrying out exercises to confirm and enhance training, and, integrating and adopting lessons learned). It was recommended that PSEPC serve as the training service and resource repository and coordinate all emergency management related training and exercises.

The trends, risks, threats, awareness levels and capabilities noted in the sections above all indicate a continued need, rationale and context for continuing the CBRN FRTP:

- There continues to be a risk of terrorism for Canada and vulnerability to CBRN threats remains high.
- Canadians are aware of the potential for terrorist attacks and believe terrorism is making the world and Canada a more dangerous place. Canadians are not confident their government will take care of them in an emergency situation (like a terrorist attack or natural disaster).
- Key departments and agencies across Canada have built the capability to offer CBRN training to responders.

While PSAT funding has enabled departments/agencies to build the capacity for training first responders and through training has provided hundreds of first responders with an enhanced ability to respond to a CBRN incident, challenges remain to meet the long term ultimate outcome (*To enhance the state of preparedness, readiness and capability to respond to CBRN incidents in Canada, and thereby increase the safety of Canadians*). These include:

- The need to extend the reach of the training across all regions of Canada and to all relevant first responders, potentially by also considering alternative models of delivery and a more decentralized approach.
- The need to continue to build a cadre of subject matter experts to further extend the training and provide capacities outside the federal government.
- The need to better integrate and share responsibility with other governments, other government departments and the private sector for CBRN response.
- The need to extend and integrate CBRN training for health first responders and receivers. The Centres for Disease Control and Prevention have noted that most of the public health force lacks the necessary education and training to deal with CBRN incidents.

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- The need to address psychosocial aspects in training (such as perception, processing and decision-making in which attitudes, understanding and emotions are imbedded). Health care workers and other first responders can experience negative psychological reactions due to their general occupational responsibilities that need to be addressed in a comprehensive training program (Lemyre, 2004).
- The need to developing national (or international) standards for all aspects of CBRN training, equipment and concept of operations.
- The desire to take an all hazards risk assessment approach to designing training and enhancing interoperation and integration.
- The need to enhancing CBRN education for political / program support.
- The need to promote sustainability in training, assuring training maintenance and sustainable proficiency.
- The need to developing a more all-hazard incident management training program.

Annex: List of Information Sources

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D. Planned Training Program Details (as per original TB Submission)

RESPONSE LEVEL	COURSE CONTENT	COURSE DETAILS	CLIENTS	PRE-REQUISITES
INTRODUCTORY AWARENESS	<p>Course Objective</p> <p>The participant will be able to recognize a potential CBRN incident, take appropriate personal protection measures and alert the appropriate response personnel.</p> <p>Content:</p> <ul style="list-style-type: none"> • Aware of the potential for terrorist use of CBRN weapons (RCMP) • Recognize unusual trends that may indicate a CBRN incident (ALL) • Initiate actions to protect themselves, others and safeguard property (RCMP/DRDC) • Be able to access the support infrastructure if a CBRN incident is suspected (ALL) • Aware of the roles & responsibilities of the various first responders (ALL) • Recognize the psycho-social response to terrorism (HC) 	<ul style="list-style-type: none"> • C/D rom, video based, Internet-based • Limited testing of knowledge • Self-study 	<p>Unlimited: e.g.</p> <ul style="list-style-type: none"> • Hospital: Security, Registration & telecommunications staff • Red Cross (volunteer) • Public Transit • Health Services in isolated communities • Building operators • Mail rooms • General security staff 	None
RESPONDER BASIC (1-day)	<p>Course Objective</p> <p>Participants will be able to recognize and respond (but not intervene) to a potential CBRN incident while taking the necessary precautions and calling in the appropriate specialized responders.</p> <p>Content:</p> <ul style="list-style-type: none"> • Know the potential use of CBRN weapons by terrorists (RCMP) • Know the questions to elicit critical information from callers re: CBRN incidents (RCMP) • Recognize a CBRN incident through 	<ul style="list-style-type: none"> • Classroom based • Knowledge testing • Scenarios & exercises 	<ul style="list-style-type: none"> • Firefighters • Police • 911 operators & dispatchers • Red Cross • Poison Control • Public Health: Call center phone line staff; Nurses; Public Health & Environ. Health Inspectors • Hospital Staff: Doctors; Nurses; Pharmacists • Paramedics – Basic level 	Basic understanding, familiarity with, principles & procedures for responding to a Hazardous Materials (HazMat) incident

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RESPONSE LEVEL	COURSE CONTENT	COURSE DETAILS	CLIENTS	PRE-REQUISITES
	<p>signs, symptoms & trends (Severall)</p> <ul style="list-style-type: none"> • Awareness of CBRN agents/materials & relevant terminology (Severall) • Know the physiological & psychological effects of CBRN agents/materials (Severall) • Awareness of potential dissemination devices (RCMP) • Know individual protective measures – agent avoidance techniques (Severall) • Know how to modify your responder actions when responding to a potential CBRN incident (Severall) • Know self-decontamination procedures and awareness of more elaborate decontamination procedures (Severall) • Know the Interagency roles & responsibilities (Severall) 		<ul style="list-style-type: none"> • Quarantine officers 	
<p>Additional training modules at the Responder Basic level to address specific client training needs.</p>	<p>(1) Medical Module (Health Canada)</p> <ul style="list-style-type: none"> • Know the Surveillance & reporting procedures • Know how to administer Emergency Treatment to a CBRN victim 	<ul style="list-style-type: none"> • Classroom based • Knowledge testing • Scenarios & Exercises 	<ul style="list-style-type: none"> • Public Health: Call center phone line staff; Nurses; Public Health & Environ. Health Inspectors • Hospital Staff: Doctors; Nurses; Pharmacists • Paramedics - Basic level 	<p>Response Basic Course</p>
<p>RESPONDER INTERMEDIATE</p> <p>(approx. 7-day)</p>	<p>Course Objective</p> <p>Participants will be able to respond and intervene to an incident by mitigating and neutralizing its effects as well as taking direct action to save lives.</p> <p>Content:</p> <ul style="list-style-type: none"> • Understand the CBRN Threat – history, International & Canadian Incidents (RCMP) • Know the Responder Roles & Responsibilities (CEMC) 	<ul style="list-style-type: none"> • Classroom based • Knowledge & skill testing • Practical exercises & examinations 	<ul style="list-style-type: none"> • HazMat • Police Explosives Technicians • Forensic Identification Technicians • EMA (Paramedic) III Advanced life support • Selected Public Health Inspectors • Lab personnel (including mobile response labs) 	<ul style="list-style-type: none"> • Responder Basic course (pre-course reading) • One of the following designations: <ul style="list-style-type: none"> • NFPA 472 (6) HazMat training or equivalent • Advanced Life Support • Police Explosives Technicians Course • Forensic

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RESPONSE LEVEL	COURSE CONTENT	COURSE DETAILS	CLIENTS	PRE-REQUISITES
	<ul style="list-style-type: none"> • Incident Recognition – Agent types & effects, intelligence indicators, incident indicators (RCMP) • Be able to select the appropriate Protection gear - collective, individual, equipment, Simulant training (DRDC) • Be able to select the appropriate Detection equipment and use it – chemical, biological, radiological-nuclear (exposure limits/exclusionary zones) (DRDC/HC/CNSC) • Be able to Decontaminate – individual, buddy, mass, decontamination line, post event clean-up (DRDC/CEMC) • Know the Medications, Antidotes and medical protocols (HC) • Be able to work within a Site Management system – multi agency & jurisdiction response, ESM-EOC, site safety/evacuation/cordon (CEMC) • Know the Medical Response – Victim protocols, responder support, walk-ups, coordination, procurement of specialized medications (HC) • Know how to access and use the CBRN Support Systems – Scientific expertise, the counter terrorism plan, Joint National CBRN Response Teams (SolGen) • Understand the psycho-social support available for public & responders – CISM, psychological effects of terrorism (HC) <p><i>Recommended Outcome:</i> Some Graduating participants will be selected to serve as champions/trainers in the local/regional delivery of the Responder Basic Course.</p>		<ul style="list-style-type: none"> • ERAP (trained personnel) 	<p>Identification Course</p> <ul style="list-style-type: none"> • In addition, candidates must be currently operational & have a basic understanding of emergency preparedness & response principles

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RESPONSE LEVEL	COURSE CONTENT	COURSE DETAILS	CLIENTS	PRE-REQUISITES
<p>Specific training module(s) – breakout module to address specific training needs of the various response community</p>	<p>Content: Medical Management/Treatment</p> <ul style="list-style-type: none"> • Know the Acute health effects of CBRN agent exposure (HC, DRDC) • Recognize trends indicating possible CBRN incident (HC, DRDC) • Know Safe & legal antidote administration (HC, DRDC) • Implement CBRN mass casualty triage procedures (HC) • Administer Emergency medical field treatment for CBRN agents (HC) <p>Content: Early Detection</p> <ul style="list-style-type: none"> • Operation & use of field survey instruments & equipment for detection & identification of CBRN agents/materials (Several) • Handling suspicious packages, Lab 1,2,3, on protocols (HC, DRDC) <p>Content: Critical Incident Protocols</p> <ul style="list-style-type: none"> • Know the various devices & disseminators • Know the incident actions plans • Understand how to work using a CBRN bomb suit • Know the secondaries & reconnaissance procedures • Understand & apply device diagnostic techniques • Understand & apply the various containment techniques: device/agent/incident • Understand & apply device render safe procedures such as surgical disruption, hand entry & counter charge options <p>Content: Identification</p> <ul style="list-style-type: none"> • Understand and apply specialized 		<ul style="list-style-type: none"> • Specialized Emergency Medical Assistants – Paramedics III, Advanced Life Support • Selected Public Health Inspectors • Lab personnel (including on-scene rapid detection & mobile response labs) • ERAP qualified • Police Explosives Technicians • Forensic Identification Technicians • HazMat Technicians 	

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RESPONSE LEVEL	COURSE CONTENT	COURSE DETAILS	CLIENTS	PRE-REQUISITES
	<p>CBRN crime scene - evidence gathering protocols & techniques</p> <ul style="list-style-type: none"> • Understand and apply specialized CBRN packaging & transport of exhibits - protocols & techniques • Know the appropriate agent detection techniques <p>Content: HazMat</p> <ul style="list-style-type: none"> • Conduct an Individual Chemical Survey. • Know the CBRN Decontamination Corridor - protocol and set-up • Know the Medical Triage within the Decontamination Corridor • Know Exhibit Control & Notes • Know Mass Decontamination protocols • Know C/B Decontamination Agents • Know Contamination Control and Mitigation Strategies 			
<p>MEDICAL OFF-SITE RESPONDER (intermediate)</p> <p>HOSPITAL</p>	<p>Course Objective</p> <p>Participants will be able to recognize CBRN related symptoms and trends and take appropriate action to alert the appropriate personnel and implement precautionary measures and treat the victims.</p> <p>Content:</p> <ul style="list-style-type: none"> • Know the Acute health effects of CBRN agent exposure (HC, DRDC) • Recognize trends indicating possible CBRN incident (HC, DRDC) • Know Safe & legal antidote administration (HC, DRDC) • Implement CBRN mass casualty triage procedures (HC) • Know the Coordination & emergency site management; protocols for working with specialists (HC) • Implement Decontamination of victims: 	<ul style="list-style-type: none"> • Classroom based (with equipment) • Knowledge & skill testing • Practical exercises 	<ul style="list-style-type: none"> • Emergency Room physicians, nurses & coordinators • Duty officers 	<ul style="list-style-type: none"> • Responder Basic Course (pre-course reading) • Understanding, familiarity with, principles & procedures for the hospital response to a HazMat incident.

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RESPONSE LEVEL	COURSE CONTENT	COURSE DETAILS	CLIENTS	PRE-REQUISITES
<p>PUBLIC HEALTH CLINIC</p>	<p>issues in hospital setting (HC, DRDC)</p> <ul style="list-style-type: none"> Emergency medical treatment : immunization, prophylaxis and acute care (HC, DRDC) <p>Content:</p> <ul style="list-style-type: none"> Know Public health guidelines (HC) Implement set-up procedures for prophylaxis clinics (HC) 		<ul style="list-style-type: none"> Public Health nurses and doctors 	
<p>Senior-level Responders (decision- makers)</p> <p>A CBRN module will be added to CEMC’s existing ESM/EOC courses.</p>	<p>Course Objective</p> <p>Participants will be able to manage and coordinate a multi agency multi-jurisdiction response to a CBRN incident.</p> <p>Content</p> <ul style="list-style-type: none"> Procedures & resources for handling mass casualties to include mass decontamination (CEMC) Downwind hazard impact & the decision to evacuate or protect in place (CEMC) The federal response plan & its relationship to an NBC incident (CEMC)(SolGen) Development of site safety plan (CEMC) Development & exercise of an nuclear/biological/chemical response plan (CEMC) 	<ul style="list-style-type: none"> Classroom based Knowledge & skill testing Practical exercises/ examinations 	<ul style="list-style-type: none"> Those identified as senior-level key decision-makers at an emergency site or Emergency Operations Centres (EOC) Emergency Measures EHS/ESS Directors Medical Officers of Health Public Health Managers 	<ul style="list-style-type: none"> Knowledge of Emergency Site Management and EOC operations
<p>RESPONDER ADVANCED</p>	<p>Course Objective</p> <p>Participants will improve their intervention skills by using the equipment and implementing the response protocols in a CBRN live agent environment. They will acquire an understanding of the critical link between responders and the scientific expertise.</p> <p>Content</p> <ul style="list-style-type: none"> This level of training will be scenario- 	<ul style="list-style-type: none"> Scenario based field exercise training in environments contaminated with lethal agents Laboratory Testing & Sampling Classroom 	<ul style="list-style-type: none"> Joint National CBRN Response Teams Bomb technicians HAZMAT technicians Forensics HERT qualified Field Epidemiologists Staff in Hospitals designated in provincial nuclear emergency plans 	<ul style="list-style-type: none"> Graduates Responder Intermediate

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RESPONSE LEVEL	COURSE CONTENT	COURSE DETAILS	CLIENTS	PRE-REQUISITES
	<p>based including live agent, simulants & explosives. (DRDC)</p> <ul style="list-style-type: none"> • Review Recognition, Detection and Protection (Several) • Leak test respiratory protection (DRDC) • Practice protection modes – collective, individual in live agent environment (DRDC) • Use detection equipment on real agents in laboratory and field conditions (Several) • Critical Incident Intervention (RSP's , Forensics) including chemical agent sampling (RCMP, DRDC) • Practice decontamination with actual lethal agents/simulants in an operational context (DRDC) • Victim rescue operations - practice providing medical treatment to animal substitute victims (HC, DRDC) • Effectively consulting with Scientific expertise during operations (DRDC) • In-field medical CBRN training - Smallpox syndromic surveillance techniques, onsite acute care (HC) • Management of chemical casualties (DRDC)(HC) • Radiation Simulation training - treatment & decontamination methods for radiation patients (HC)(DRDC)(CNSC) 			