



ANNUAL REPORT

2004 - 2005



CANADIAN
POLICE
RESEARCH
CENTRE



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ANNUAL REPORT

2004 - 2005

Canada

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For additional copies or further information contact:

Canadian Police Research Centre
National Research Council
Building M-55, 1200 Montreal Road
OTTAWA, Ontario K1A 0R6
Telephone (613) 990-8577
Facsimile (613) 949-3056
www.cprc.org

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The Canadian Police Research Centre (CPRC) is a strategic partnership between the Canadian Association of Chiefs of Police (CACCP), the Royal Canadian Mounted Police (RCMP), and the National Research Council of Canada (NRC). This partnership has been supporting technology for law enforcement and public safety for more than 25 years.

In last year's Annual Report, I told you that the CPRC's Advisory Board, partners, and staff would be working in 2004–2005 to strengthen the organization. One year later, the CPRC is well positioned to lead efforts to meet the technology needs of first responders in communities across Canada. Now more than ever, the CPRC is bringing together government, science, industry, and Canada's first responders, to make Canada safer through science and technology.

The CPRC has a critical mission: to conduct research, develop standards, and work with industry to provide solutions for first responders—at a reasonable cost. By taking a pro-active approach, the CPRC has successfully supported Canadian technological advances in policing and public safety sciences, and provided strategic advice to decision makers at all levels.

In response to the needs identified by the law enforcement community, the CPRC has focused a growing number of projects in two specific areas. These are health and safety, and operational effectiveness. Some key achievements this year include the "Review of the Taser® Conducted Energy Device" study, the development of the Blunt Trauma Protective Equipment Standard, and the launch of Canadian Police Knowledge Network.

In the next year, the CPRC will continue to build on its core competencies. These are research and development skills; knowledge of policing operations; independence and objectivity; and a strong national network connected to the international community.

I am proud of what we have accomplished this year and I look forward to sharing the outcome of our work with you in this report.



CPRC

Chief Jim Cessford

*Chief Constable, Delta Police Department, Delta, British Columbia
Chair, Canadian Police Research Centre Advisory Board*

C P R C ' S V I S I O N

A safer Canada through science and technology

M I S S I O N

To provide leadership and focus for science and technology in policing and public safety across Canada through research, development, standards, evaluation, and commercialization

V A L U E S

Inclusive

Encouraging collaboration in an open atmosphere

Innovative

Exploring new opportunities with creativity and open-mindedness

Integrity

Doing the right things at all times in an ethical manner

Responsive

Reacting to the client and to changing business practices efficiently and effectively

Accountable

Being responsive to the organizations that collaborate with us while exercising due diligence with respect to financial matters and in our financial practices

The Strategic Pillars of the CPRC

The CPRC was originally structured around three strategic objectives:

- developing the best tools for the police community
- ensuring that solutions are both affordable and practical
- building enduring partnerships

As the CPRC enters its next quarter-century, these three original strategic objectives have evolved to reflect current needs and operational demands. Today's CPRC is guided by the following three strategic pillars that will provide the context and framework for CPRC activities for years to come.

Pillar 1: E-learning and E-working

- to develop the Canadian Police Knowledge Network (CPKN) as a collaborative network, identifying needs and coordinating the design and delivery of e-learning and e-working solutions for the Canadian police community

Pillar 2: Research, Technology Development, and Evaluation

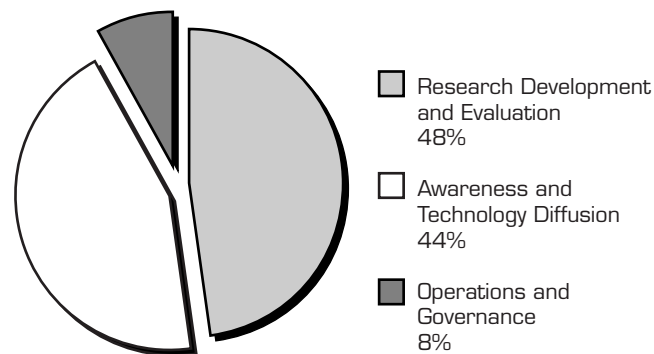
- to identify user needs for improved technologies
- to facilitate collaborative projects addressing areas of need
- to identify and develop technologies that enhance investigative techniques
- to provide tools, techniques, and objective technology analysis
- to identify and develop technologies that enhance public and officer safety
- to facilitate the development of effective standards and provide objective technology evaluations to aid decision making
- to operationally evaluate new technology products that assist the work of first responders and of the public-safety community

Pillar 3: Awareness and Technology Diffusion

- to be the national focal point for R&D and technical information for the Canadian police community
- to coordinate regional, national, and international collaborations with research and technology providers
- to increase the competitiveness of the Canadian security technology industry by linking industrial capabilities to first responder requirements regionally, nationally, and internationally
- to market CPRC services by increasing awareness of and use of these services by our present and future clients

Resource Allocation

The chart below illustrates the percentage of resources the CPRC directed towards each of these three pillars, and to administration and governance, in 2004–2005.



A SAFER CANADA THROUGH SCIENCE AND TECHNOLOGY

The Business of the Canadian Police Research Centre

The Canadian Police Research Centre (CPRC) is a partnership among the Canadian Association of Chiefs of Police, the Royal Canadian Mounted Police, and the National Research Council Canada. It is staffed by personnel from the RCMP and the National Research Council (NRC), and is governed by an independent advisory board made up of representatives from police and other related organizations from across Canada.

The CPRC serves as a single, national focal point for technology research and development efforts in support of Canada's law enforcement community. By promoting innovation and cooperation among the police community, governments, industry, universities, and other research organizations, the CPRC strives to ensure that the best possible resources are made available to police and related organizations in a cost-efficient and timely manner.

Canadians today have an unprecedented awareness of public safety concerns, and equally unprecedented expectations for seeing those concerns addressed. In December 2003, the Canadian government clearly signaled its heightened priority for all aspects of security issues at home and on the world stage. While the CPRC cannot address all of these areas or expectations, it has made—and will continue to make—significant contributions to public safety at home and abroad.

Through its research agenda, the CPRC provides the law enforcement community with reliable, objective information on a variety of topics—information that contributes to sound, evidence-based decision making. It also provides a unique service by developing and evaluating technologies and technical standards to respond to several areas:

- Law enforcement and public security organizations benefit from having an organization that can identify common technology needs, develop standards, and evaluate technology in an operational environment. The CPRC is well positioned to respond to these needs on a national basis and has commercialized over 50 technologies that are in daily use in Canada and around the world.
- The responsibility for law enforcement and public security crosses all levels of government. The ability to work seamlessly with all stakeholders in this area is critical in solving operational problems and commercializing key solutions. An important core competence of the CPRC is strong partner relationships. The CPRC plays a key role in facilitating cooperation across jurisdictions and between organizations, including law enforcement, industry, other private sector interests, and non-governmental organizations.
- When it comes to police research, the capacity to respond to immediate operational needs (within 0 to 24 months) is essential. The CPRC is a flexible organization that can contract, develop, and integrate technology rapidly. It does this by bringing Canada's major research organizations, police services, and innovative industries together to produce the solutions required for today's policing.
- First response begins at the community level. The CPRC maintains the Technology Partner Associates, a network of police professionals that helps to provide Canadian industries with opportunities to test new products and technologies in an operational environment. The CPRC also works with the NRC's Industrial Research Assistance Program and other research institutes to link first responders, industry, and researchers.

2004-2005 CPRC EXECUTIVE BOARD AND STAFF

CPRC Chairman

Chief Constable Jim Cessford
Delta Police Department
4455 Clarence Taylor Crescent
DELTA, British Columbia V4K 3E1
Phone (604) 940-5000 Fax (604) 946-4682

CPRC Advisory Board

Jim Cessford
Chief Constable, Delta Police Department, Delta BC

Richard L'Abbé
President, CEO, Med-Eng Systems, Ottawa ON

Brad Duncan
Deputy Chief, London Police Service, London ON

Tony Burbridge
Deputy Chief, Halifax Regional Police Service, Halifax NS

John Carson
Deputy Commissioner, Ontario Provincial Police, Orillia ON

Wendy Fedec (until January 2005)
Executive Director, Canadian Association of Police Boards,
Ottawa ON

Dale Kinnear
Director, Canadian Professional Police Association,
Ottawa ON

Ian McKenzie
Chief, Abbotsford Police Department, Abbotsford BC

Earl Moulton (until January 2005)
Assistant Commissioner, RCMP, Regina SK

Carol Wagar
Chief Administrative Officer, Edmonton Police Service,
Edmonton AB

Vern White
Assistant Commissioner, RCMP, Ottawa ON

Karen Sallows
Director, Research, Evaluation and Coordination Division,
Public Safety and Emergency Preparedness Canada,
Ottawa ON

CPRC Staff

Steve Palmer, Executive Director
Canadian Police Research Centre
National Research Council Canada
Building M-55, 1200 Montreal Road
OTTAWA ON K1A 0R6
Office (613) 993-3996 Fax (613) 949-3056

John Arnold, Chief Scientist
Canadian Police Research Centre
National Research Council Canada
Building M-50, 1200 Montreal Road
OTTAWA ON K1A 0R6
Office (613) 993-3737 Fax (613) 993-8054

**Christine Bondar-Caron,
Administration and Events Coordinator**
Canadian Police Research Centre
National Research Council Canada
Building M-55, 1200 Montreal Road
OTTAWA ON K1A 0R6
Office (613) 990-8577 Fax (613) 949-3056

Sharlene Brooks, Project Partner
Canadian Police Research Centre
Delta Police Department
4455 Clarence Taylor Crescent
DELTA BC V4K 3E1
Office (604) 940-5016 Fax (604) 946-4682

Sheldon Dickie, Project Manager
Canadian Police Research Centre
Royal Canadian Mounted Police
National Research Council Canada
Building M-55, 1200 Montreal Road
OTTAWA ON K1A 0R6
Office (613) 949-4174 Fax (613) 949-3056

**John Evans, Program Manager North
and West Regions**
Canadian Police Research Centre
9620 - 103 A Avenue
EDMONTON AB T5H 0H7
Office (780) 554-2329

Shawna Goodkey, Project Partner
Canadian Police Research Centre
Edmonton Police Service
9620 - 103 A Avenue
EDMONTON AB T5H 0H7
Office (780) 421-2614 Fax (780) 408-4241

2004-2005 CPRC EXECUTIVE BOARD AND STAFF

Julie Graham, Project Manager

Canadian Police Research Centre
 Royal Canadian Mounted Police
 National Research Council Canada
 Building M-55, 1200 Montreal Road,
 OTTAWA ON K1A 0R6
 Office (613) 949-4173 Fax (613) 949-3056

Darren Laur, Project Manager

Canadian Police Research Centre
 Victoria Police Department
 850 Caledonia Avenue
 VICTORIA BC V8T 5J8
 Office (250) 995-7221 Fax (250) 384-6141

Chris Lawrence, Project Partner

Canadian Police Research Centre
 Ontario Police College
 PO Box 1190
 10716 Hacienda Road
 AYLMER WEST ON N5H 2T2
 Office (519) 773-4465 Fax (519) 773-5762

Dave Scott, Project Manager

Canadian Police Research Centre
 National Research Council Canada
 Building M-55, 120 Montreal Road
 OTTAWA ON K1A 0R6
 Office (613) 990-4318 Fax (613) 949-3056

Brian Thiessen, Program Manager Pacific Region

Canadian Police Research Centre
 Justice Institute of British Columbia
 715 McBride Blvd.
 NEW WESTMINSTER BC V3L 5T4
 Office (604) 528-5817 Fax (604) 528-5754

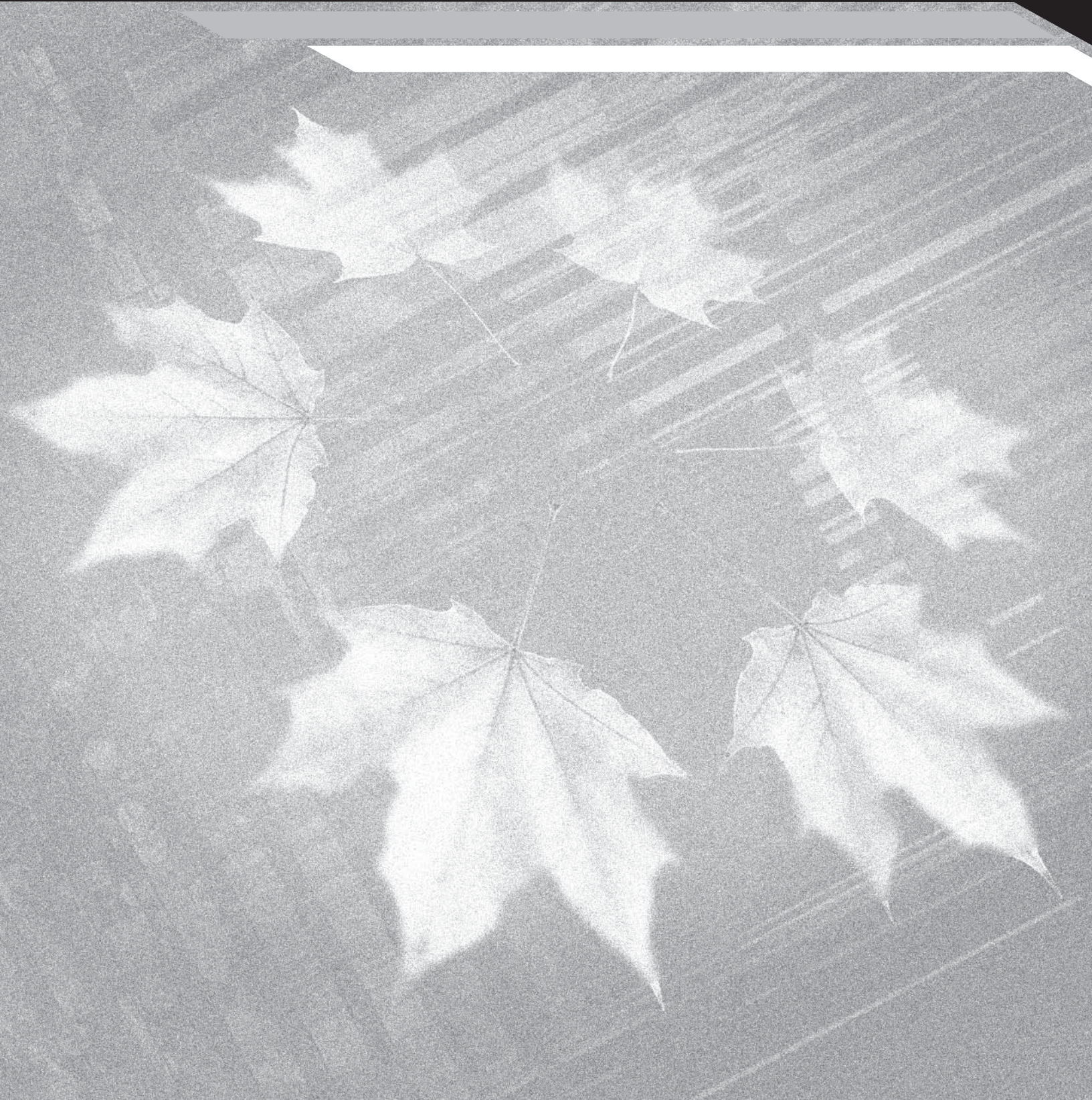


Members of CPRC advisory board and staff, Vancouver, British Columbia, October 2004

CPRC



P R O J E C T S



CATEGORY A –
HEALTH & SAFETY: PROTECTING THE POLICE IN HAZARDOUS SITUATIONS

Anchor Testing and Strength Verification – Concluded

Project Managers:

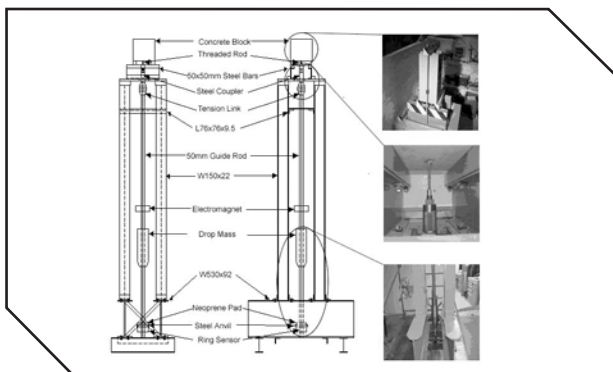
Sheldon Dickie, CPRC

(613) 949-4174

Ettore Contestabile, Canadian Explosives Research Laboratory, Natural Resources Canada

Dr. Phillip Lightfoot, Canadian Explosives Research Laboratory, Natural Resources Canada

Greg Robertson, Royal Canadian Mounted Police Collaboration with U.S. Department of Defense Technical Support Working Group



Test set-up and technical drawings from Anchor Testing and Strength Verification project

Canadian Explosives Research Laboratory,
 Natural Resources Canada

The purpose of this project was to examine the relationship between the published static strength of structural anchors and the dynamic strength under force load. These anchors are typically used when attachments are made to stone, masonry, and brick structures.

The Canadian and U.S. private sectors have provided a number of reinforcement options to increase the resistance of glazing to attack, however published work relating to the mounting of those options in existing buildings could not be found.

Specifically of interest in this project was the mounting of high strength window frames. Mounting anchors in buildings being upgraded where the buildings are of significant historical value was also a major consideration.

A full report is expected later this year.

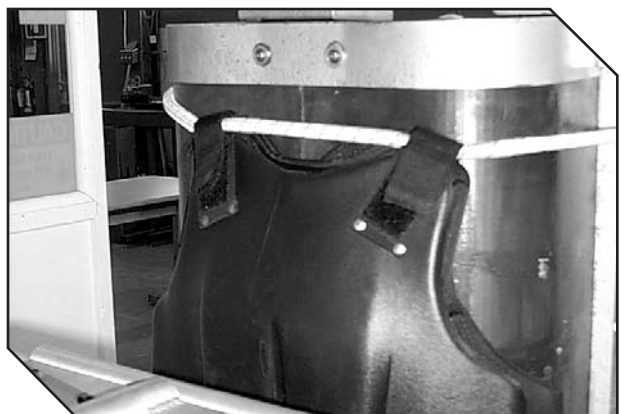
Blunt Trauma Standard: Development of Test Protocols – Concluded

Project Manager:

John Arnold, CPRC

(613) 993-3737

Last year, the CPRC contracted with Canadian Standards Association (CSA) to develop a standard for blunt trauma equipment, to be worn by police officers in riot situations. This project focused on developing protocols that would test equipment to the new standard. Biokinetics and Associates Ltd. of Ottawa researched, defined, and developed test methodology and performance specifications. They then developed test equipment to assess coverage requirements for blunt trauma standards. Finally, they documented a testing methodology for inclusion into an upcoming CSA standard.



Testing protective gear worn by police officers in riot situations

Lauren Garland, Biokinetics & Associates

Blunt Trauma Protective Equipment: Performance Standards — Active

Project Managers:

Julie Graham, CPRC

(613) 949-4173

Randy Gaw, Correctional Service Canada

(613) 995-3981

Dave Shanahan, Canadian Standards Association

Correctional Service Canada, the RCMP, other user agencies, and representatives of industry are in the final stages of creating performance standards for protective equipment for police and correctional officials. It is expected that the standard, identified as Z617, will be published in late 2005.

Bullet Resistant Police Helmet Standard — Active

Project Managers:

Sheldon Dickie, CPRC

(613) 949-4174

Benoit Anctil, Biokinetics & Associates

Gary Davis, U.S. Department of Defense Technical Support Working Group

Laurin Garland, Biokinetics & Associates

Gilles Pageau, Defence Research and Development Canada — Valcartier

Kirk Rice, National Institute of Standards and Technology, Office of Law Enforcement Standards

Defence Research and Development Canada — Valcartier and Biokinetics & Associates have done considerable work with the U.S. Department of Defense Technical Support Working Group and the U.S. National Institute of Justice to develop ballistic force and transmitted force resistant helmet designs.

The goal of the work was to evaluate how injuries associated with modern helmets could be reduced where those injuries were not the direct result of ballistic penetration, but rather were the result of secondary effects of forces on a helmet. The CPRC is assisting with the next phase of this work, which is to develop an inclusive standard.

Large Vehicle Bomb Disruptor — Active

Project managers:

Sheldon Dickie, CPRC

(613) 949-4174

Mark Asselin, U.S. Department of Defence Technical Support Working Group

Derick Ivany, Royal Canadian Mounted Police

Chris Tillery, U.S. National Institute of Justice

Police explosives technicians in Canada and the U.S. have had a number of options to deal with large vehicle bombs, such as the one used in the Oklahoma City bombing in 1995. Those options had either an inherent risk to the technicians, or had other undesirable qualities such as stringent storage requirements for the high explosives required. This project evaluated the viability of using binary explosives to create the force required to disrupt bombs in vehicles larger than ordinary cars and vans.

The result of this project is the successful PCD-LV Large Vehicle Bomb Disrupter™. The PCD-LV incorporates Canadian FIXOR™ technology, and is now in commercial production by MREL Specialty Explosive Products Limited.



PCD-LV Large Vehicle Bomb Disrupter

MREL Specialty Explosive Products Ltd.

The PCD-LV uses explosively driven water to disrupt the contents of vehicles containing large quantities of explosives, doing so in a controlled manner with minimal collateral effects. Compared to other systems, the PCD-LV is unique in three key ways:

- The PCD-LV contains BSM™ blast/flame suppression material to significantly reduce the risk of collateral damage in the vicinity of deployment.
- The PCD-LV is supplied with FIXOR™ binary explosive to eliminate the burden of explosives transport and storage logistics.
- The PCD-LV is of a realistically and rapidly deployable size. One PCD-LV can be robot- or hand-deployed against a small panel van, and multiple PCD-LVs against larger vans and trailers, all within the response time typically available to responding bomb technicians.

Additional work has been approved to test the procedure against even larger vehicles. This work will begin in 2005.

Further information is available at:

MREL Specialty Explosives Products Ltd.
 613-545-0466 ext. 111 or toll free in Canada and the
 US: 1-877-544-MREL ext. 111
 Email: bbauer@mrel.com

Web site: www.mrel.com

Localization of Small Arms Fire from a Small Boat in Coastal Regions (Ferret™) — Active

Project Managers:

Sheldon Dickie, CPRC
 (613) 949-4174

Dr. Jacques Bedard, Defence Research and Development Canada — Valcartier

Gary Davis, U.S. Department of Defence Technical Support Working Group

Simon Jacques, Macdonald Detwiller and Associates

Testing Agencies:

Royal Canadian Mounted Police
 U.S. Border Patrol

The Ferret™ is a Canadian product originally developed for armed forces operations. It is used to identify the

location of gunfire as land vehicles move on missions and encounter unexpected resistance. The purpose of current work on this project is to validate the usefulness of such technology in helping law enforcement officers working on small patrol boats on inland waterways.

Work on the project includes:

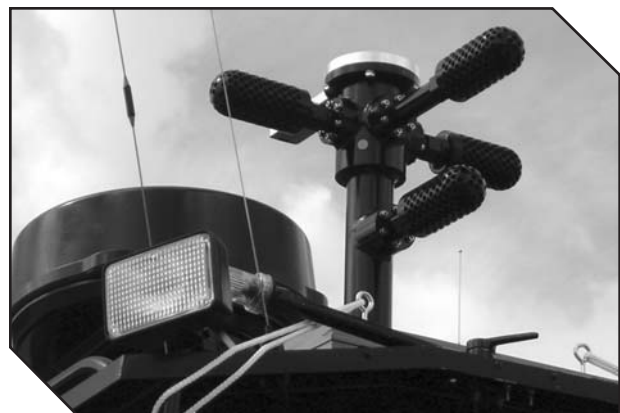
- fitting up two boats—one Canadian and one U.S.—that normally work together
- verifying the science and technological aspects
- verifying the ongoing practicality and the overall effect on enforcement

Officer safety is a major driver of this work, as is increased efficiency in apprehending suspects who fire on law enforcement officers. Additionally, the forensic capture of “signature” shots will be analyzed for the purpose of determining whether or not this information can be useful in the judicial process.



Field-testing the Ferret™ in coastal waters with an RCMP patrol boat

Sheldon Dickie, CPRC



The Ferret™

Sheldon Dickie, CPRC

Multi-Hit Standard, Police Soft Body Armour — Active

Project Managers:

Sheldon Dickie, CPRC
(613) 949-4174

Tony Bosik, Bosik Technologies

Gary Davis, U.S. Department of Justice Technical Support Working Group

Kirk Rice, National Institute of Standards and Technology, Office of Law Enforcement Standards

The test process developed for the Canadian General Standards Board CAN/CGSB-179.1-001 documented in our 2002-2003 Annual Report provided promising repeatable procedures and fixtures for testing police soft body armour.

At the conclusion of that work, the project leader, Tony Bosik, described what he believed to be seven areas of scientific interest that required further exploration. These were:

- method of attaching armoured vests
- effects of angle shots
- effects of shot sequence or pattern orientation
- effects of shot firing rates
- results of different body armour designs and materials
- clay equivalent back armour measurement/assessment for multi-hit
- multi-hit testing of hard armour

In 2004, the CPRC, the U.S. Department of Defense Technical Support Working Group, and the U.S. National Institute of Justice reviewed this work. This led to the support of further work to be conducted as a joint Canada-U.S. project. Work will start in 2005.

Pursuit Management — Active

Project Manager:

Sheldon Dickie, CPRC
(613) 949-4174

Preliminary work is being done to ascertain if there is a way to remotely manipulate the performance of electronically controlled motors. The purpose of this work is to determine the most effective way to reduce the number of high-speed pursuits involving police.

This project is still in the initial, feasibility assessment stage.

CATEGORY B –

OPERATIONAL EFFECTIVENESS: FIGHTING CRIME AND GATHERING INFORMATION, INTELLIGENCE AND EVIDENCE

Alberta Police Secure Network (APSNet) — Active

Project Managers:

John Evans, CPRC

(780) 554-2329

Rick Saunders, Edmonton Police Service,

Information Technology Section

(780) 421-2391

The Alberta Public Safety Network (APSNet) is a project to integrate the record management systems and other key databases of Alberta police services. The system was considered too expensive and complex to undertake until alternate technologies were introduced by the CPRC. The project was re-examined and deemed to be affordable and quickly achievable.

In 2003, funding was arranged and the project was tendered. The contract was awarded and due to be on-line by the summer of 2004. The launch was delayed, however, due to an external project that APSNet was to interface with. That project has now been resolved to the degree that APSNet can move forward and it should be in operation by mid-2005.

The technology will create an interface with the existing databases, allowing them to be treated like one large, virtual database. Police will then be able to query all municipal police databases through a single interface, which will give them more complete information.

Biometric Security — Active

Project Manager:

John Arnold, CPRC

(613) 993-3737

Starting in March 2005, the CPRC worked with the Montreal company, idMouse, to evaluate their biometric fingerprint system, called "Sesame." Unlike other biometric systems, the idMouse technology requires

no external biometric database, because the biometric is a combination of the person's fingerprint and an identification number (the number could be a person's credit card number, for example). The project involved installing Sesame at Centre national de ville, Ministère de la Sécurité publique, in Québec City. This high security centre is the operations centre for any security incident in the province of Quebec.

During the project, data was gathered and compiled daily. The data gathered included enrolment time, number of registration refusals, false acceptances, and biometric access times with 100 reference points. It was also important to determine whether one can reverse-match the biometric to the officer's fingerprint. Activity logs and transactions with the central database were documented, as were the helpdesk logs and user feedback. As well, a thorough evaluation of the system's operation was conducted.

The project's scheduled completion date is July 2005. A report will be published shortly thereafter.



The "Sesame" biometric fingerprint system by idMouse, in action

idMouse

Body Furnace — Concluded

Project Manager:

John Arnold, CPRC
(613) 993-3737

The Ontario Provincial Police (OPP) assisted the CPRC in evaluating this prototype device. The body furnace is a heat generator that small enough to be carried under a winter jacket. A small fan blows across a halogen light, which is powered by a small motorcycle battery that is carried in a bag or backpack. It is also possible to plug it into a vehicle's cigarette lighter (this was the version evaluated by the OPP).

The main purpose envisioned for the body furnace was for emergency backup heat in a life-threatening situation. Police officers could use it as a backup in patrol cars that are disabled, in snowmobile accidents, or in open boats being used in cold areas. It could be powered by the vehicle electrical system, or a person could wear it with battery backup for up to eight hours.

The OPP evaluation found that the unit became too hot and that the electrical connections were flimsy and unsatisfactory. No report was published.



The Body Furnace

CPRC

Chemical Development for Fingerprint Detection — Active

Project Managers:

Julie Graham, CPRC
(613) 949-4173

Dr. Della Wilkinson,
RCMP Forensic Identification Research Section
(613) 993-3059

Reports:

- TR-03-2005 E "The Results from a Canadian National Field Trial Comparing 1,8-Diazafluoren-9-one (DFO) with Ninhydrin and the Sequence DFO Followed by Ninhydrin"
- TR-03-2005 F « Résultats d'essais sur le terrain à l'échelle du Canada visant à comparer la 1,8-diazafluorén-9-one (DFO), la ninhydrine et la séquence DFO suivie de la ninhydrine »

Performances of fingerprint detection techniques for paper products vary according to the type of paper the fingerprints are on (for example, currency, newsprint, cheques, etc.).

The Ontario Police College, the Canadian Police College, and the Forensic Identification Research Service of the RCMP worked together on this project. It involved comparing new chemical detection techniques to existing techniques on a variety of substrates. Initial results from this research suggest that DFO and 1,2-Indandione work in a similar fashion, depending on the type of exhibit to be examined. Work continues and additional reports are expected.



Various chemicals can help to detect latent fingerprints.

Distribution of Sequence Heteroplasmy in Human Mitochondrial DNA from Skeletal Remains — Concluded

Project Managers

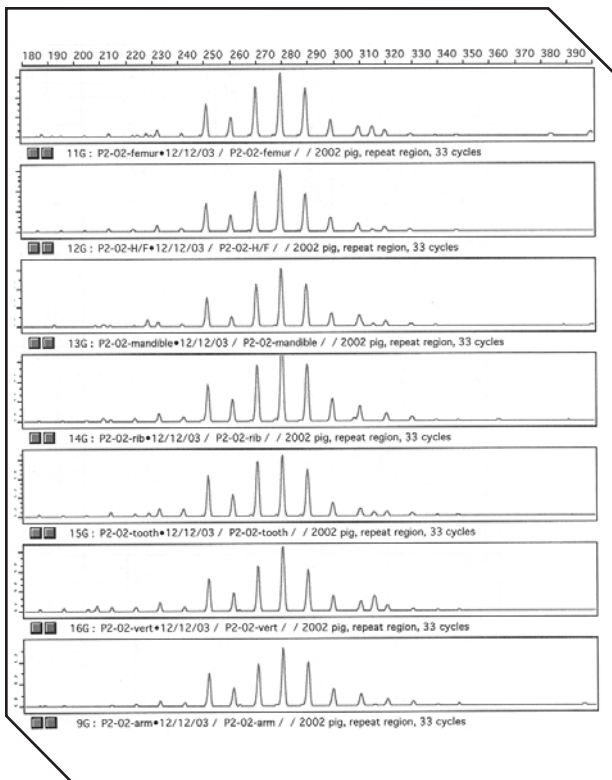
Julie Graham, CPRC

(613) 949-4173

Dr. Dean Hildebrand, British Columbia Institute of Technology

(604) 451-7027

Building on work reported in last year's annual report, Dr. Hildebrand and colleagues have been investigating the consistency of heteroplasmy in the hard tissues of individuals. Initial studies were done with animal skeletons and some work was conducted with human hard tissue. A report is expected by the fall of 2005.



Porcine Heteroplasmy

Dr. Dean Hildebrand, British Columbia Institute of Technology

DNA Sampling from the Trigger and Handgrip of Discharged Firearms — Active

Project Managers:

Julie Graham, CPRC

(613) 949-4173

Dr. Dean Hildebrand, British Columbia Institute of Technology

(604) 451-7027

Report:

TR-01-2004

“DNA Sampling from the Trigger and Handgrip of Discharged Firearms”

As firearms are used in many criminal acts, investigators need methods to obtain DNA-based identifications from firearms. In the past, DNA has been successfully obtained from skin cells deposited on objects that have simply been touched by an individual. Now, even smaller quantities of DNA can now be analyzed using PCR-based technology.

This project's researchers found a way to maximize the recovery of DNA from handled firearms in order to generate a profile of the person who handled the weapon. Following the initial report, more work was done, including investigating the recovery of DNA from bullets.

Additional reports on this research are expected in the coming year.



Collecting a DNA sample from the handgrip of a discharged firearm.

Dr. Dean Hildebrand, British Columbia Institute of Technology

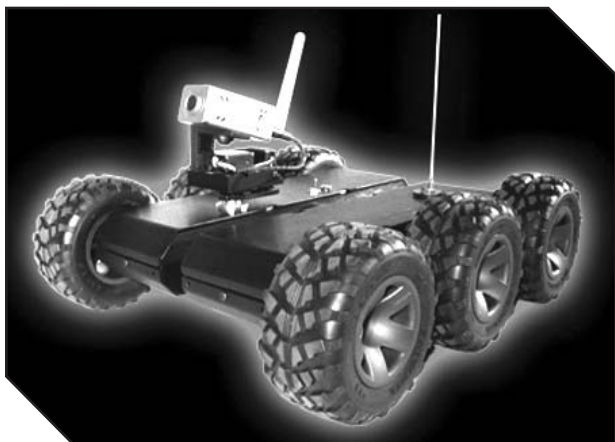
Draganbot — Active

Project Manager:

John Evans, CPRC
(780) 554-2329

This early-stage project involves field-testing and enhancing small, inexpensive, and highly mobile remote control vehicles for a variety of tasks related to tactical, security, or other police uses. The base configuration is the Draganbot, a lightweight 6-wheel robot that is small enough to go beneath vehicles.

The robot's small size, simple operation, and low cost make it capable of being easily deployed and widely used. The unit comes with a high-quality streaming video unit that has a remote-control tilt-pan. Other accessories are being considered.



The remote controlled Draganbot is small enough to go underneath most vehicles.

Draganfly Innovations Inc

Draganfly — Active

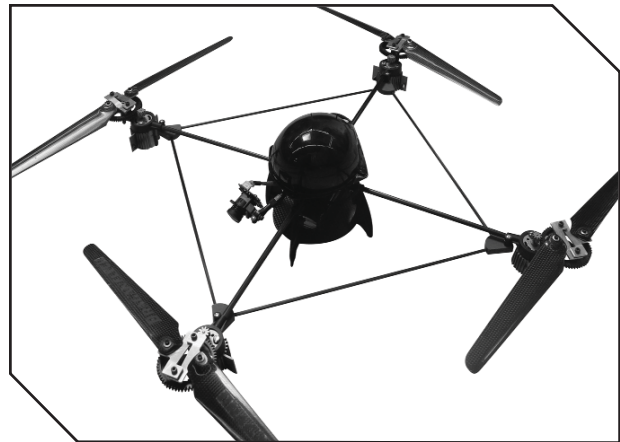
Project Manager:

John Evans, CPRC
(780) 554-2329

This project will introduce, evaluate, and further develop miniature remote control helicopters equipped with video transmitters. Derived from the hobby-craft market, these units have been specifically tailored for the police and military markets, by being made more rugged than their hobby-craft counterparts. They have also been

equipped with a unique intelligent control system and high quality video. This makes them suitable for operating outdoors, yet they remain nimble enough to operate within buildings. These robots could offer frontline officers or tactical units new options for streaming video information from overhead, elevated, close-up, or exposed positions, in a way that is quick to deploy and easy to operate.

Field-testing and evaluation is currently being done in cooperation with the Edmonton Police Service and the RCMP "K" Division.



The Draganfly, a miniature remote control helicopter, is equipped with video transmitters

Draganfly Innovations Inc

Effects of Various Environmental Regimes on Blow Fly Maggot Development — Active

Project Managers:

Julie Graham, CPRC
(613) 949-4173

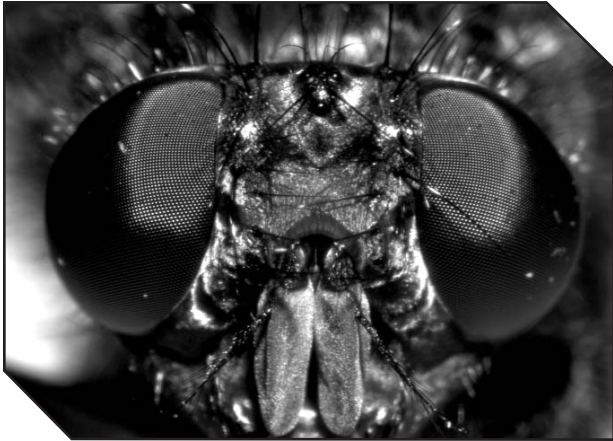
Dr. Gail Anderson, Simon Fraser University
(604) 291-3589

Report:

TR-04-2005

"Developmental Rate of *Protophormia Terraenovae* (R-D) Raised Under Constant and Fluctuating Temperatures, for use in Determining Time Since Death in Natural Outdoor Conditions, in the Early Postmortem Interval"

This project will determine the effects of various environmental influences such as fluctuating temperatures, very high and very low temperatures, varying humidity, food deprivation, and so on, on the development of blow fly larva. The study of these effects will assist in determining time-since-death.



Adult blowfly (*calliphora vicina*)

Dr. Doug Strongman, Saint Mary's University

Forensic Entomology Across Canada — Active

Project Managers:

Julie Graham, CPRC
(613) 949-4173

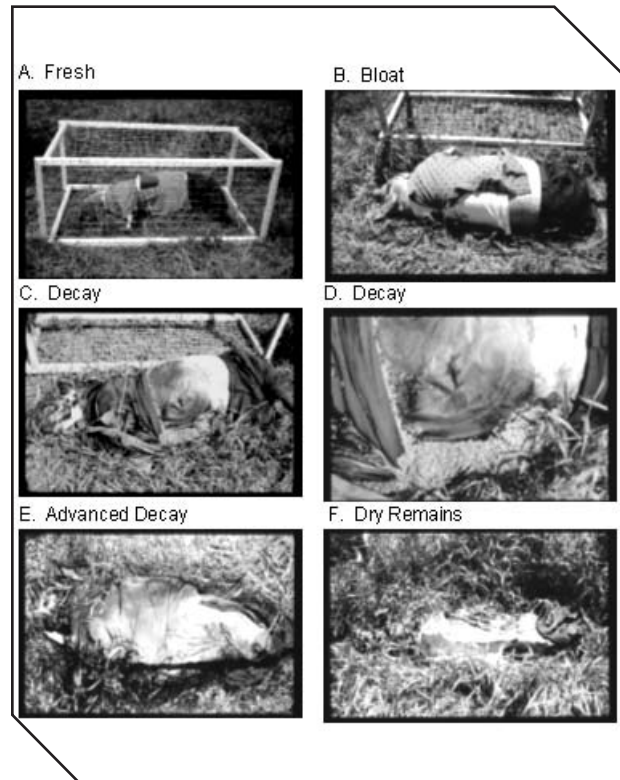
Dr. Gail Anderson, Simon Fraser University
(604) 291-3589

Dr. Doug Strongman, St. Mary's University
(902) 420-5754

Reports:

- TR-06-2005 "Decomposition and Arthropod Succession on Above Ground Pig Carrion in Rural Manitoba"
- TR-09-2002 "Determination of Time of Death for Humans Discovered in Saltwater Using Aquatic Organism Succession and Decomposition Rates"
- TR-04-2002 "Insect Succession on Carrion in the Edmonton, Alberta Region of Canada"

- TR-10-98 "Freshwater Invertebrate Succession and Decompositional Studies on Carrion in British Columbia"
- TR-09-97 "Aquatic Forensics: Determination of Time Since Submergence Using Aquatic Invertebrates"
- TR-02-96 "Forensic Entomology: Determining Time of Death in Buried Homicide Victims Using Insect Succession"
- TR-03-96 "Forensic Entomology: The Use of Insects in Death Investigations To Determine Elapsed Time Since Death In Interior and Northern British Columbia Regions"
- TR-05-95 "Forensic Entomology: The Use of Insects in Death Investigations to Determine Elapsed Time Since Death"



The stages of decomposition of pig carrion in a spring field trial at Elm Creek, Manitoba.

Ginger J. Gill, University of Manitoba

In addition, a 23-minute training video on the collection of entomological evidence is also available.

Dr. Anderson continues to direct studies involving insect succession on pig carcasses. Studies have been completed in Manitoba and Saskatchewan and reports are expected shortly. A study continues in the Maritimes.

The information gathered from these studies will assist in determining time-of-death in homicide cases. The goal is to have a countrywide database covering all of the biogeoclimatic zones across Canada.

Oleoresin Capsicum (OC) Spray Use — Concluded

Project Manager:

John Arnold, CPRC
(613) 993-3737

Report:

TM-01-2005 "CPRC Survey of Canadian Police Services on OC Spray Experience"

Correctional Service Canada asked the CPRC for help in surveying the police community on their use of oleoresin capsicum (OC) spray, also known as "pepper spray".

The survey was responded to by 19 Canadian police services. These included three small departments (those with fewer than 50 uniformed police officers), six medium-sized (those with more than 50 but fewer than 1000 uniformed police officers), and ten large departments (those with more than 1000 uniformed police officers).

The following five questions comprised this survey:

1. Do all your police officers carry pepper spray all the time?
2. What types or brands of spray are used by your police?
3. Are there officer safety protocols in its use?
4. Does your service have training standards specific to OC spray?
5. Have there been any officer(s) injured in the use of OC spray?

Radio Inter-Operability — Active

Project Manager:

Brian Thiessen, CPRC
(604) 528-5817

Emergency first responders may experience significant difficulties when different agencies are brought together in response to a crisis. Precious time and energy are wasted in determining how to communicate, which has negative consequences for all those involved.

A similar problem affects neighbouring police agencies when they are on different radio systems that do not communicate with each other. Some effort has been made to bring agencies onto the same system, but cost and a variety of other reasons often makes this impractical.

This project seeks to examine and demonstrate inexpensive and groundbreaking communication equipment that is designed to eliminate these inter-operability issues. It will do so by connecting diverse communications equipment together, into one device. This diverse equipment includes the following: digital, analog and trunking systems, cellular phones, satellite phones and computers.

Removable Equipment Package (Chameleon RS3p) (Restricted) — Concluded

Project Manager:
Sheldon Dickie, CPRC
(613) 949-4174

This project has concluded with the successful development and licensing of a unique modular system that increases portability and ease of rapid deployment for police equipment.

Roadside Drug Testing Technology to Combat Impaired Driving — Active

Project Manager:
Brian Thiessen, CPRC
(604) 528-5817

The Criminal Code of Canada and provincial legislation both prohibit driving while impaired by alcohol or drugs. Numerous technologies have been developed to combat alcohol impairment and specific legislation was written with those tools in mind. However, little has been done in the field of drug-detecting technology for impaired driving.

This project aims to analyze and develop emerging technology for roadside drug testing. The goal is to not only develop an approved instrument for roadside drug testing, but also to develop a device capable of accurately testing for drug use in drivers, without the expensive and time-consuming requirement of sending a sample to a laboratory to confirm the result.

Victoria, Australia, became the first jurisdiction in the world to introduce roadside drug-detecting technology on a trial basis.



Chameleon RS3P

RCMP

Voice Enabled Patrol Car Evaluation — Active

Project Managers:
John Evans, CPRC
(780) 554-2329
Ward Stene, Calgary Police Service
(403) 206-8364

This is a pilot project to evaluate technology to equip patrol cars with voice command systems. Such systems will allow patrol officers to control the emergency equipment of their cars and do computer queries with voice commands, while driving. This will help avoid the dangerous distraction of taking their eyes off the road or target, or their hands off the steering wheel.

Warning Shot Target — Concluded

Project Manager:

John Arnold, CPRC
(613) 993-3737

Report:

TR-05-2005 "Warning Shot Target Ballistic Test Evaluation"

Correctional Service Canada approached the CPRC for help in evaluating the testing and manufacture of "warning shot targets". A warning shot target is a target that is mounted in a correctional facilities' range (the range being the inmates quarters). The purpose of the target is to give correctional officers the opportunity to shoot live ammunition to calm a potential riot situation. The target must be safe from ricochets and bullet penetration, as well as be lightweight and re-useable.

This project researched warning shot target alternatives, identifying companies capable of building warning shot targets. Then, two sample targets were fabricated to warning shot target specifications. All targets had to be capable of being attached to the ceiling or to a concrete wall. The targets were tested to determine their safety in terms of ricochets, safety, and life expectancy. A report was written with recommendations including test results, sourcing, and cost.



Warning shot target

CPRC

Winter Tires Testing For Police Vehicles — Concluded

Project Managers:

Sheldon Dickie, CPRC
(613) 949-4174

Bruce Richter, National Institute of Justice
(866) 569-2969

Under the initiative of the National Law Enforcement and Corrections Technology Center, Northwest (NLECTC, Northwest), the CPRC worked with various partners to test winter tires for police patrol vehicles. A report will be published under the auspices of the National Institute of Justice in 2005.



John Lesko, RCMP

Testing winter tires for police vehicles at RCMP Training Depot facilities in Regina, Saskatchewan.

CATEGORY C –
PROTECTING THE PUBLIC: TRAFFIC, CUSTODY AND CRIME PREVENTION

Cyber Cops: “Mirror Image” and “Air Dogs” — Active

Project Managers:

John Evans, CPRC
 (780) 554-2329

Angie Howe, Ontario Provincial Police (OPP),
 e-Crime Section

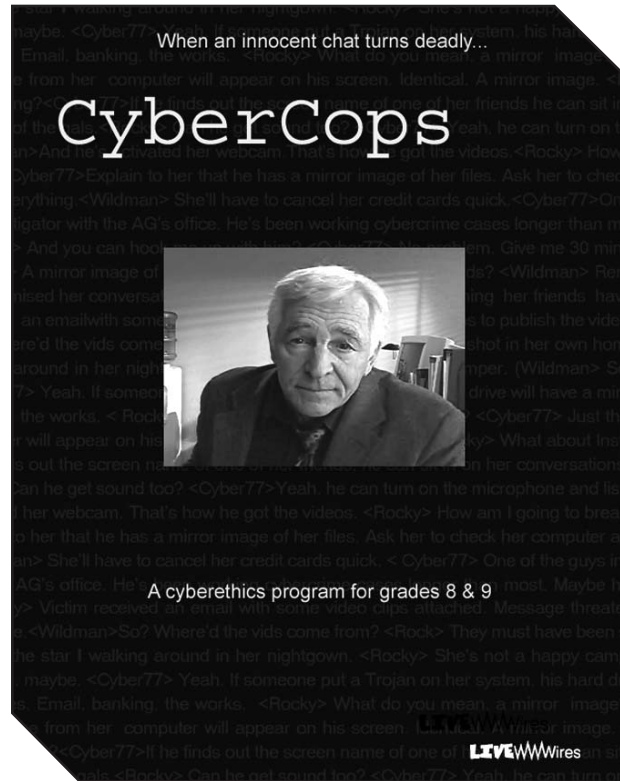
Arni Stinnissen, Ontario Provincial Police (OPP),
 e-Crime Section

Following the success of MISSING, LiveWires Design Ltd. has been commissioned by sponsors in Canada, the U.K., and the U.S. to develop a new series of courseware for high schools. This series, Cyber Cops, will target a variety of specific problems and dangers associated with Internet and text messaging use by young people.

The first two episodes of the Cyber Cop series, “Mirror Image” and “Air Dogs,” will be released in September 2005. The CPRC and the Ontario Provincial Police have worked with LiveWires Design Ltd. to fund and develop a police officer training package for these episodes.

For information on how schools in your area can obtain this new series please contact:

LiveWires Design Ltd
 Phone: (604) 687-5046
 E-mail: info@livewwwires.com
 www.livewwwires.com



Box cover from “Cyber Cops” game

“MISSING” — Concluded

Project Manager

John Evans, CPRC
 (780) 554-2329

MISSING is a computer game for children ages 10 to 14 that can be played in school classrooms or group settings. It has become an overwhelming success and has received many awards and recognitions. These include such prestigious awards as Canada’s CANARIE Information Highway Award. MISSING was also honoured as a Computerworld Smithsonian Laureate and has a Case Study on its work preserved in the Permanent Research Archive at the Smithsonian’s National Museum of American History.

LiveWires Design Inc.

MISSING's interactive and unique approach captures the attention of even hard-to-reach children and teaches them to recognize danger on the Internet and how to develop safer Internet practices.

The CPRC funded a training module for school resource officers to assist them with introducing MISSING to schools in their regions. The CPRC was also instrumental in spreading the game's popularity throughout Canada, as well as Australia, the Philippines, Singapore, Switzerland, the U.K., and the U.S., among other countries. Over 150,000 games are now in use, making it one of the highest-selling educational games of all time.

The game has become a standard part of the school curriculum in many areas making over 1,000,000 children safer users of the Internet. Its effectiveness and value has been demonstrated by documented cases where young teens were unaware they were in the process of being lured by an Internet predator. They narrowly avoided a serious sexual assault or worse; because of playing MISSING, they realized the danger they were in and turned to authorities.

Further information is available at:

LiveWires Design Ltd.
 Phone: (604) 687-5046
 E-mail: info@livewwwires.com
 www.livewwwires.com

U.S. Distributor: www.webwisekids.org



Screen image from the game "MISSING"

Pedestrian Crash Test Dummy — Concluded

Project Manager:
Julie Graham, CPRC
 (613) 949-4173

Report:
 TM-02-2005 "Pedestrian Crash Test Dummy"

Training courses in the area of pedestrian collision reconstruction require crash test dummies to help prove formulae and collision dynamics. Crash testing allows technical investigators to observe first-hand what evidence may be found, and where. Dummies allow people to examine the interaction between vehicles and bodies, and this allows students to better understand and deal with speed estimates and pedestrian trajectories. Personnel in the Mechanical Engineering Department of the University of British Columbia designed and built a prototype dummy to be used in training courses. It has been tested and it works relatively well. However, additional work must be done on the joints.



Pedestrian crash test dummy

Simulated Impaired Driving Experience (S. I. D. N. E.) — Active

Project Managers:

John Evans, CPRC

(780) 554-2329

Bernie Loughlin, Edmonton Police Service

Hal O’Gilvie, Edmonton Police Service

This project will develop an instructional program for School Resource Officers to introduce electronically controlled go-carts that demonstrate the dangers of impaired driving.

The go-carts have electronic controls that enable them to either drive normally or to simulate the driving behaviour of an impaired person. The intent is show young teens, who are just beginning to drive, the actual level of loss of control experienced by someone operating a vehicle under the influence of drugs or alcohol.

Smart Side — Active

Project Managers:

John Evans, CPRC

(780) 554-2329

The objective of this project is to stop impaired driving through the use of nanotechnology. The researchers’ vision is to create a device that can detect ethanol molecules in the air of the passenger compartment of a motor vehicle. If ethanol is detected, the device will cause the vehicle to perform certain actions to avoid collisions, or alert other road users and the police. Once the technology is proven, a motor vehicle safety standard could be created through Transport Canada and the U.S. National Transportation Safety Board, and the device installed in all new vehicles sold in North America.

Given the capabilities of nanotechnology, this is a realistic and achievable objective, and its technical feasibility is considered high. This proposed passive detection system could reduce today’s sophisticated and expensive instruments to the microchip level.

This proposal remains active, and efforts to secure the necessary resources to make significant progress are ongoing.

Sydney Safe-Seeker And the Incredible Journey Home — Concluded

Project Manager:

John Evans, CPRC

(780) 554-2329

Sydney Safe-Seeker and the Incredible Journey Home is a suite of products focused on “streetproofing” young children ages 5 to 10 years. It comprises an entertaining CD-ROM game that teaches child safety; parent and educator assessment tools for tracking children’s safety knowledge; and a wealth of support materials and activity sheets for parents, educators, police, and other child safety professionals.

The game is a role-playing adventure-style game with numerous interactions that lead up to a potentially unsafe situation. The player is presented with an audio/visual decision prompt for each potentially unsafe situation that must be answered to continue the game. Based on the player’s selected answer, the game branches to one of two outcomes showing either a safe or a potentially unsafe situation (no violence is shown). Animation and audio are used to provide more detailed feedback, and animation branches provide educational outcome knowledge.

The value of this initiative is twofold: first, it teaches young children to incorporate streetproofing into their daily lives, giving them an essential skill that will protect them and the children they play with; and second, it provides community stakeholders with the best safety practices to convey to children, as well as with materials and supplementary resources to help these caregivers and safety professionals convey these messages.

For more information:

Child Safety Research and Innovation Center

Email: info@csric.org

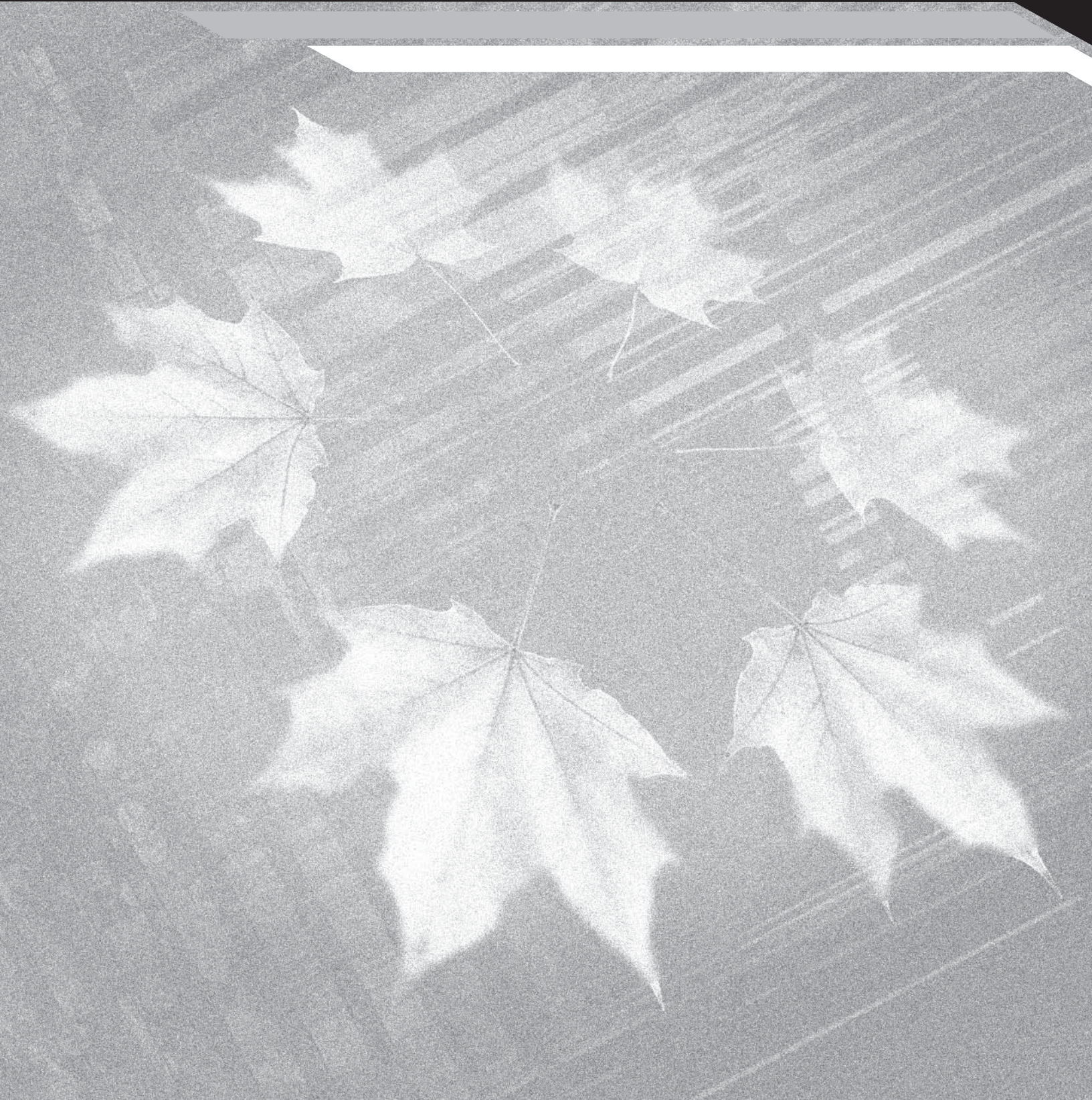
Website: www.childsafetygateway.org/sydney.html

New Brunswick Office
94-7 General Manson Way
Miramichi NB E1N 6K8
(506) 773-3663

Ontario Office
6117 Oak Meadows Drive
Ottawa ON K1C 7G6
(613) 590-0558



S P E C I A L I N I T I A T I V E S



The Canadian Police Knowledge Network (CPKN) — Active

Project Manager:

John Arnold, CPRC
(613) 993-3737

The Canadian Police Knowledge Network (CPKN) is a collaborative network that identifies the learning needs of the Canadian police community and co-ordinates the development of e-learning products to meet those needs.

Using the Justice Knowledge Network (JKN), police organizations provide content and the CPKN provides resources and expertise in order to develop and deliver e-learning products. This collaborative process ensures that the Canadian police community's training needs are met with high quality, interactive, and cost-effective products.

To date, the CPKN has built e-learning courses with the Atlantic Police Academy, the Cape Breton Regional Police Service, the Edmonton Police Service, the Winnipeg Police Service, and the RCMP. The network also offers products from selected third party suppliers.

The CPKN currently offers the following products through its web site at www.cpkn.ca

- CBRN: First Responder
- Domestic Violence Investigations
- Electronic Crime Scene Investigation
- Ethics, Values and Principles
- Investigative Communications
- Managing Workplace Harassment
- Missing Child First Responder
- National Sex Offender Registry
- 32 Job Aids / e-Working Tools

CPKN continues to add new products to its library of on-line training and e-working tools. The following courses are currently in development:

- BAC DataMaster C/Intoxilyzer 5000C Pre-Course
- Clandestine Methamphetamine Lab
- Collision Investigation Level II

- Hate and Bias Crime
- Niche Records Management System
- Search and Seizure

The CPKN continues to look for new courses to develop. By collaborating with the CPKN, organizations can have access to an effective training tool, as well as share a portion of the revenue generated. Course selection is based upon the needs of the police community and its ability to meet the following:

Value	Content applicable to most or all police officers
Target Subject Matter	All police personnel across Canada
Expert	A recognized subject matter expert is available
Content	Current, up-to-date content is available

This year's the CPKN activities were as follows:

- The CPKN Advisory Board holds teleconferences twice monthly to discuss current issues. Unfortunately, attendance has been sporadic due to the work commitments of board members, but there is usually a quorum.
- In September, the CPKN Advisory Board members held a workshop in Ottawa and created the CPKN strategic plan.
- The CPKN's strategic plan was circulated and approved by the Advisory Board and was tabled at the CPRC Advisory Committee meeting in Richmond, B.C., in October 2004 for information purposes.
- The CPKN business model and collaborative work agreements were drafted in late October.
- The CPKN web site was launched on October 25, 2004. Since that day, members of the Canadian police community have been able to access a variety of e-learning and e-working solutions at www.cpkn.ca
- In November, it became apparent that the CPKN should evolve into an independent, self-supporting

not-for-profit agency. This move was largely driven by issues of clarity and momentum for the organization, and by the need to protect the investments made by major partners.

- In December, the CPKN Advisory Board, under the direction and leadership of Assistant Commissioner Earl Moulton, passed a motion to move forward and establish the CPKN as a federal not-for-profit legal entity. The National Research Council, Holland College, and the Canadian police community would provide governance for the new entity. This information was shared with Chief Cessford, Chair of the CPRC.
- In January 2005, the CPKN project staff met in Charlottetown and developed a communications and awareness plan for the Ontario police market to prepare for a tour of the major police services in that province. At the same time, the CPKN seconded Steve Pilote, Winnipeg Police Service, for a three-month period, to assist with the Ontario tour.
- In January, John Arnold, Sandy Sweet and Steve Pilote, made their first trip to Ontario and had meetings with the London Police Service, the Ontario Police College (OPC), the Waterloo Regional Police, and the York Regional Police. Additionally, the CPKN is in discussions with the OPC to develop an MOU (memorandum of understanding) for future work together.
- In the first two months, the CPKN has had over 400 users. Some are paying customers, while others have been given free access to assess the courses for their police services. Over 150 users have been surveyed to determine their opinions on the courses offered, and their views on ease of access and technical issues, etc. Overall, the feedback has been very positive.
- In January, the CPKN had its first international sale to a Canadian military member stationed in Paris, France, who purchased the French version of the "First Responder Missing Child" course.
- In early February, the documents to support the incorporation of the CPKN as a Federal Not-for-Profit legal entity were drafted. Documents were finalized and sent for signature in March.
- Also in February, a CPKN five-minute promotional video of testimonials was prepared and is available on DVD.

- In mid-February, the CPKN project staff made their second trip to the Golden Horse Shoe area of Ontario. Presentations were made to the Durham Regional Police Service, the Halton Regional Police Service, the Hamilton Police Service, the Ontario Provincial Police, the Peel Regional Police, and the Toronto Police Service. It has become very clear that for the CPKN to be successful in Ontario, their adequacy standards have to be addressed by working with the Ontario Police College.
- In late February, the following people met to move forward with the creation of the CPKN as a federal not-for-profit entity: the Director General of the National Research Council's (NRC) Industrial Research Assistance Program (IRAP), the Vice President of Holland College, and the RCMP's Director General, Learning and Development and Chairman of the CPKN Advisory Board.
- Further meetings were held in Ottawa in late February, to raise awareness and engage like-minded organizations, such as the federal government's CampusDirect, the RCMP's Forensic Lab, the National Sex Registry, the National Weapons Enforcement Support Team (NWEST), and the Police Sector Office of Human Resources and Social Development Canada.

To be successful, the CPKN must be sustainable. The CPKN has a short time—the next three years—to prove that it can stand on its feet and deliver world-class training. The CPKN will provide e-learning and e-working tools to the Canadian police community at cost. Under this model, the more the CPKN is used by Canadian police, the more cost effective it becomes.

More information is available on the CPKN web site at www.cpkn.ca or by contacting Project Manager, John Arnold.

Chemical, Biological, Radiological, and Nuclear Research and Technology Initiative (CRITI) — Active

Project Manager:
John Arnold, CPRC
(613) 993-3737

In response to the events of September 11, 2001, the Canadian government set up a research and

development program called **CRTI** (Chemical, Biological, Radiological, and Nuclear Research and Technology Initiative). Defense Research Development Canada (DRDC) administers this five-year R&D program. The priority categories for the CRTI program are:

1. Lab Cluster Management and Operations
2. Collective Command, Control, Communications, Coordination and Information (C4I) Capabilities for CBRN Planning and Response
3. Equipping and Training First Responders
4. Prevention, Surveillance, and Alert Capabilities
5. Immediate Reaction and Near-Term Consequence Management Capabilities
6. Longer-term Consequence Management Issues
7. Criminal Investigation Capabilities
8. Science and Technology Dimensions of Risk Assessment
9. Public Confidence and Psychosocial Factors

This past year, John Arnold, the CPRC's Chief Scientist, continued to serve on the CRTI proposal and project selection team as an evaluator who has experience in dealing with the police side of the first responder community.

The project selection and funding process requires the selection committee to review approximately 100 proposals per year. Those that pass the screening are asked to submit a full project proposal. These full project proposals are also evaluated and, if successful, are funded up to 67% on their proposed cost.

Through this process, valuable contacts have been made that improve the CPRC network, providing opportunities to forge business relationships between the CPRC, DRDC, and other CRTI participants.

More information is available on the CRTI web site at www.crti.drdc-rddc.gc.ca, or by contacting Project Manager, John Arnold.

Commercialization in China — Active

Project Manager:
Brian Thiessen, CPRC
 (604) 528-5817

Napoleon warned, "Let China sleep, for when she awakes she will shake the world." China's current economic boom is one of the most astounding in world history. More and more Canadian industries are taking advantage of China's booming economy, increasingly open markets and its thirst for commodities, technology and ideas.

The mission of the CPRC is to provide leadership and focus for science and technology in policing and public safety across Canada. The key to achieving this so far has been to have strategic partnerships with the business sector in order to commercialize ideas. The size of the Canadian market, however, limits innovation.

Recent developments in China have created unique opportunities for the CPRC and other Canadian organizations. The country has a massive market, is growing in wealth, and is increasing its level of relations with the rest of the world. It needs public safety technology to help with the Beijing Olympics, the Shanghai Expo, and the Asian Games, as well as to address day-to-day public safety in communities. By facilitating access and development into the Chinese market, the CPRC provides businesses with incentives that will also boost public-safety science and technology in Canada.



Police van in China

CPRC



CPRC and IRAP participate in technology trade show in China

CPRC

During 2004–2005, CPRC staff went on four missions to China. Two were with Canadian industry leaders, one was with a Minister of Trade's trade mission, and one was a scoping mission to look for more opportunities in the Chinese security market. Relationships have been established with Chinese police research centres, the Beijing Police, the Guangdong Police, the Hong Kong Police, the Ministry of Public Security and the Beijing Olympic Organizing Committee.

Significant successes have been achieved through these efforts, and letters of cooperation between China and several Canadian public security companies are expected in the next fiscal year.

New Technology Demonstrations — Active

Project Manager:
Brian Thiessen, CPRC
 (604) 528-5817

The purpose of new technology demonstrations is to showcase emerging public security technologies. These demonstrations also give law enforcement officers an opportunity to use and evaluate the technologies in real-to-life training simulations.

The demonstrations help determine the effectiveness of the technologies by having them used in realistic situations. This also allows users to suggest modifications based on actual experiences. They also provide police with significant training opportunities. Demonstrations are being planned for emergency response teams, patrol units, and surveillance units.

Review of the Taser® Conducted Energy Device (CED) — Active

Project Manager:

Darren Laur CPRC / Victoria Police Department
(250) 995-7221

Reports:

- TR-08-2002 "The Conducted Energy Weapon Evaluation Report" (Restricted)
- TR-01-2000 "TASER Technology Research Paper"

In August 2004, the Canadian Association of Chiefs of Police asked the Canadian Police Research Centre to conduct a unique and comprehensive review of scientific research, field reports, and data on the use of Taser® Conducted Energy Devices (CED) in police work in Canada and around the world.

This review will build on previous research into Taser® safety, including a joint RCMP/CPRC project in 2002 that included a technical assessment of the M-26 (the model currently in use by 71 Canadian Police organizations), the testing of the M-26 on volunteer subjects, and a six-month field trial.

The current project will provide recommendations on:

1. Safety
2. Use of force policy and contra indications / limitations
3. Training
4. Further research



The Taser® X26C CED device

See Anywhere and Map Everywhere Technology (SAME) — Active

Project Manager:

John Arnold, CPRC
(613) 993-3737

On March 2, 2005, the CPRC hosted a technology showcase called, "See Anywhere and Map Everywhere Technology: A Groundbreaking Innovation for Security, Emergency Responses and Management." Dr. Vincent Tao (Founding President, GeoTango International Corp., Toronto, Canada Research Chair Professor in Geomatics, York University and Director, York Geospatial Information and Communication Technology Lab) spoke to an audience of approximately 75 people from both the government and private sectors.

SAME technology ("See Anywhere and Map Everywhere") is a Canadian innovation developed by GeoTango International Corp., a leading Canadian geomatics software company. *SAME* is based on the integration of advanced remote sensing, sensor networks, 3D visualization, and Internet communication technologies. *SAME* allows users to zoom in or fly through anywhere on the planet and to access geographic 3D images and sensor information through the Internet.

Dr. Tao demonstrated how satellite and aerial images can be used to provide real-time or near-real-time monitoring, surveillance, and mapping of critical infrastructure sites, urban cores, and rural regions, anywhere in the world. GeoTango's *SAME* solution allows users to quickly build 3D site models and perform web-based 3D visualization and analysis. This unique ability is possible due to GeoTango's two primary software tools:

1. GeoServNet (Globe): a network-centric 3D spatial visualization and streaming system that allows users to perform 3D visualization and interactive exploration of multiple data sources over a distributed network. This leading-edge system delivers a full 3D globe with multiple resolution images and maps of anywhere in the world. This tool is mainly used for emergency planning, scenario visualization and command and control situations.

2. SilverEye: the only software in the world that allows users to create 3D models and conduct 3D measurements and analysis using single satellite images and aerial photos. This patent-pending technology allows users at all skill levels to perform rapid and accurate image-based modeling and visualization.

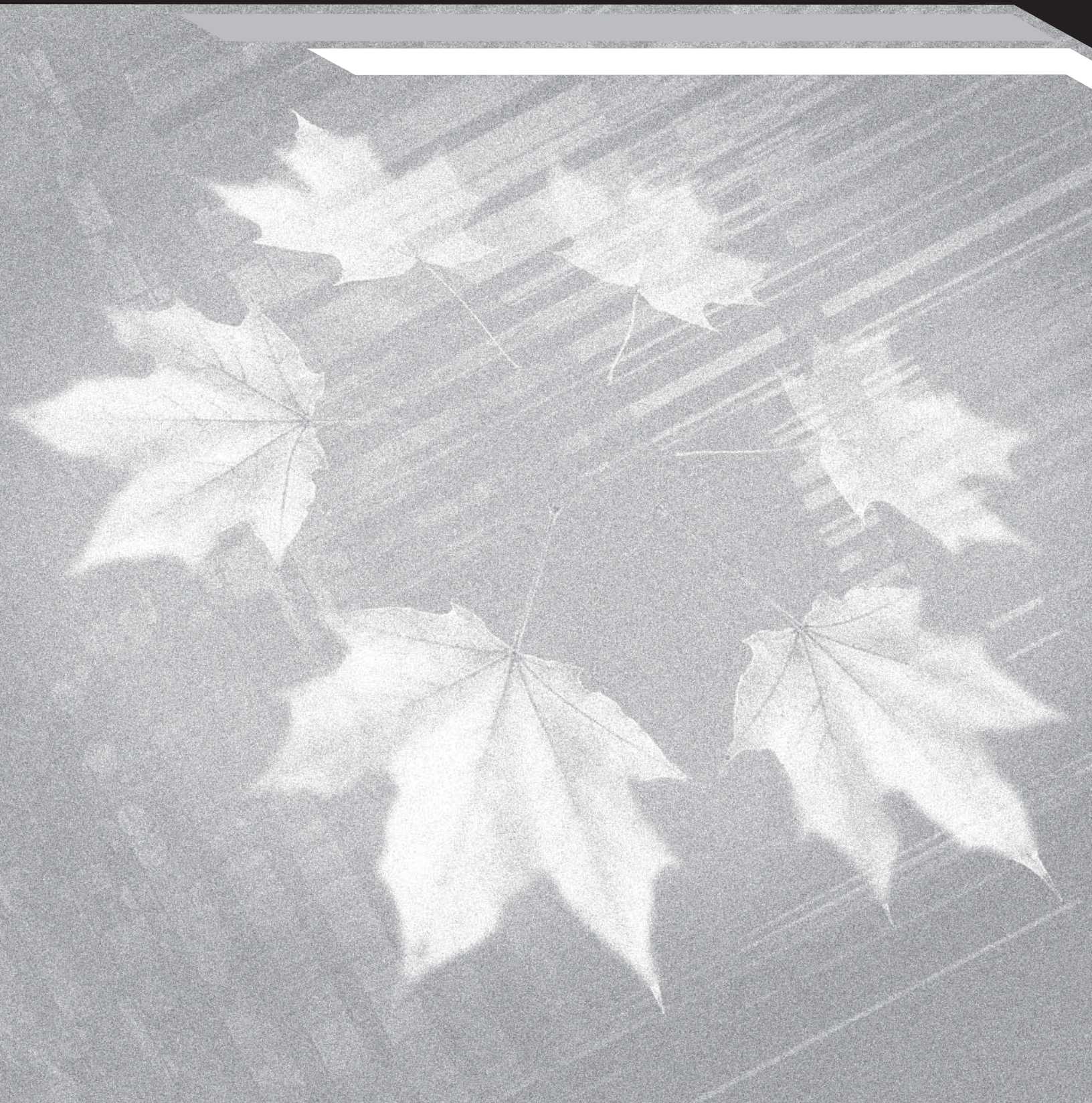
A meeting was hosted after the presentation to explore interests in working on a project using Dr. Tao's *SAME* technology. As a result, several pre-proposals have been submitted to security-funded programs.



CPRC Chief Scientist, Dr. John Arnold and GeoTango International Corp founding President, Dr. Vincent Tao



LINKS AND LEVERAGES



FINANCIAL CASE STUDY

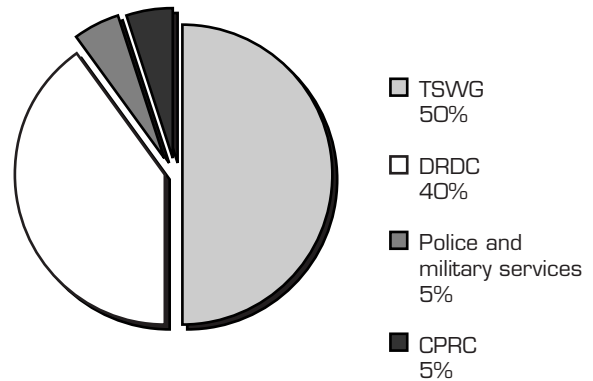
Localization of Small Arms Fire from a Small Boat in Coastal Regions (Ferret™) — Active

Leveraging limited financial resources is an important part of the CPRC's product development strategy. This year, working with police agencies in Canada and the United States, in collaboration with Defense Research Development Canada (DRDC), we initiated a project to evaluate the possibility of adapting the Ferret™ gunfire location technology, which was developed for land-based vehicles, to be suitable for patrol boats on inland waterways.

Participants in this project are:

- Canadian Police Research Centre (CPRC)
- Defense Research and Development Canada
- Department of National Defense
- National Law Enforcement and Corrections Technology Centre
- Ontario Provincial Police (OPP)
- Royal Canadian Mounted Police (RCMP)
- Technical Support Working Group (TSWG)
- U.S. Border Patrol

Total project value: \$340,000



Contribution Levels

A project of this size is often out of the range for a single organization. By bringing together several organizations, and sharing resources, the CPRC is able to give life to innovative research that might not otherwise be possible. For more details on this project, please see the full project description under Category B.



Ferret Team

TECHNOLOGY PARTNER ASSOCIATE PROGRAM

The CPRC receives many requests from industry concerning new and proposed products or new technological ideas that might benefit the police community. As well, there are many technological ideas and requests that come from the police community itself. New products or ideas must be evaluated by the police community with respect to operations (for example, does it serve a police need, such as making the job easier, more effective, or more cost efficient). When the CPRC receives a proposal, it sends it to a Technology Partner Associate (TPA) in a police agency, who in turn circulates the idea within his or her department to get an operational opinion. These comments are returned to the CPRC, which then decides on the course of action.

In the case of a new prototype product, which might be the product of research or an idea from industry, the CPRC will want an operational opinion on its effectiveness. Most often these new ideas are in the form of a single prototype. The CPRC canvasses the TPAs to solicit evaluators who are interested in testing a prototype. If the CPRC is able to get a number of departments to evaluate the product, they have a corresponding number of pre-production prototypes made and sent for evaluation under criteria that are set by the CPRC and industry. A report addressing each of the criteria is written by the department and submitted to the CPRC. This enables industry to provide a better final product. The evaluation of a new product is an interactive process that, in the end, provides a new and better device to the police community.

The Technology Partner Associate Program also provides a mechanism for dissemination of some police technical information received by the CPRC (for example, reports, brochures, videos, and newsletters).

TECHNOLOGY PARTNER ASSOCIATES

Services	TPA Contact	Telephone
Abbotsford	Insp. Rod Gehl	604-864-4704
Barrie	Ms. Barb Howse	705-725-7025 ext 2214
Belleville	S/Sgt. Tony MacKinnon	613-966-0882 ext 2223
Brandon	Chief F. Richard Bruce	205-729-2305
Brantford	Deputy Chief Derek McElveny	519-756-7050
Brockville	Chief Barry King	613-342-0127 ext 4222
Calgary	Ms. Diana Bloom	403-206-8425
Camrose	Insp. Darrel Kambeitz	780-672-5940
Canada Border Services Agency	Mr. Pierre Pilon	613-954-4112
Canadian Pacific Railway	Supt. Rod Manson	403-319-7005
Central Saanich	Deputy Chief Clayton Pecknold	250-652-4441
Combined Forces Special Enforcement Unit	S/Sgt. Brad Pellegrin	604-777-7899
Defence Research and Development Canada	Mr. Philip Twardawa	418-844-4000 ext 4292
Delta	Mrs. Pat Hart	604-940-5002
Department of National Defence	Major Denis Egglefield	613-945-7279
Durham Region	Supt. Greg Mills	905-579-1520 ext 4302
École nationale de police du Québec	Mme Ghislain Raymond	819-293-8631 ext 384
Edmonton	S/Sgt. Tony Harder	780-421-2375
Estevan	Mr. Peter S. MacKinnon	306-634-4767
Fredericton	Mrs. Michele Cronin	506-460-2412
Gatineau	Mr. Dany Montmigny	819-243-2345 ext 6090
Halifax	Sgt. Gary Smith	902-490-4508
Halton	Mr. Keith Moore	905-825-4830
Hamilton	Sgt. Alison Hood	905-546-3870
Kingston	Deputy Chief Robert Napier	613-549-4660 ext 6098
Levis	M Deny Blouin	418-835-8256
London	Sgt. Scott Blandford	519-661-2583
Medicine Hat	Insp. Gord Earl	403-529-8413
Miramichi	Sgt. Robert Bruce	506-623-2124
Ville de Montréal	M. Alain Tonthat	514-280-6922
New Westminster	Chief Lorne Zapotichny	604-525-5411
Niagara Regional	Det. Craig Moore	905-688-4111 ext 4222
Ontario Provincial Police (OPP)	Deputy Commissioner John Carson	705-329-7624
Ottawa	Sgt. Gerry Doucette	613-236-1222 ext 5556
Peel	Insp. Mike Grodzinski	905-453-3311 ext 4740
Port Moody	Insp. Chris Rattenbury	604-461-3456
Public Safety and Security, Ministry of (Ontario)	Ms. Noreen Alleyne	416-314-3015
Ville de Québec	Lt. Serge A. Morin	418-641-6411 ext 5661
RCMP "A" and "HQ" Divisions	Sgt. Carl McDiarmid	613-993-1193
RCMP "D" Division	S/Sgt. Kevin Miller	204-983-8138
RCMP "E" Division	Insp. Hilton Smee	604-294-7666
RCMP "E" Division	Mr. Victor Steinhammer	604-945-1550
RCMP "E" Division	Cpl. Sue Tupper	604-985-1311
RCMP "G" and "HQ" Divisions	Insp. Paul Richards	613-993-8359
RCMP "K" Division	Mr. Wing Mah	780-412-5591
RCMP "M" Division	Sgt. Randy Fraser	867-633-8629
RCMP "O" Division	Cst. Daniel Aubin	416-743-7922
RCMP Technical Operations	Insp. Tom Pownall	613-998-6066
Regina	Mr. Ron Davis	306-777-6615
Royal Newfoundland Constabulary	Chief Richard Deering	709-729-8151
Saint John	Mr. Brian Malone	506-648-3208
Saanich	Cst. Marc Chateau	250-475-4324
Saanich	Insp. Sherry Dwyer	250-475-4364
Sarnia	Sgt. Frank Rodin	519-344-8861 ext 6078
Saskatoon	Deputy Chief Dan Wiks	306-975-8250
Sault Ste. Marie	Insp. Art Pluss	705-949-6300
Solicitor General of Canada	Mr. J. P. Labonte	613-842-1849
Greater Sudbury	Ms. Liz Mazza	705-675-9171 ext 2630

LINKS AND LEVERAGES

Summerside	Chief Ian Drummond	902-432-1201	
Sûreté du Québec (SQ)	D/DG Normand Proulx	514-598-4411	
Taber	Chief Terry Dready	403-223-8991	
Thunder Bay	Mr. Peter Worrell	807-625-1307	
Toronto	Ms. Kristina Kijewski	416-808-7771	
Vancouver	Insp. Kevin McQuiggin	604-717-2618	
Victoria	Darren Laur	250-995-7306	
Waterloo Region	Supt. Matt Torigian	519-650-8544	
Windsor	Mr. Barry Horrobin	519-255-6700	ext 4471
Winnipeg	Mr. Grant Martin	204-986-4565	
York Region	Supt. Rick Finn	905-830-0303	ext 7900

INTERACTION WITH OTHERS

CPRC's mandate of finding innovative solutions for the Canadian police community naturally involves interaction with others. Some of the many agencies that CPRC has worked with over the past year include the following:

Association paritaire pour la santé et la sécurité au travail Secteur Affaires municipales

This association, created in 1985, has as its mission to facilitate injury prevention in the workplace and ensure the adequate protection of the health, safety, and physical integrity of municipal workers (including police officers, firefighters, and others, whether they work in the field or in an office setting) across the province of Quebec. The municipal affairs sector in Quebec represents more than 80,000 individuals working in over 2,000 municipal organizations. APSAM's role is to provide both employers and employees with customized and accessible state-of-the-art tools in the areas of training, information dissemination, advice, technical assistance and R&D. CPRC is working with APSAM to share and communicate priorities and research. More information is available on the APSM web site: www.apsam.com.

Canadian Advanced Technology Alliance (CATA)

The Canadian Advanced Technology Alliance (CATA) is one of Canada's most influential and entrepreneurial technology alliances. CATA's mission is to stimulate global business growth through the forces of Canadian innovation and strategic partnership. CATA focuses on various elements of advanced security, including physical, procedural, and technological security. These different aspects manifest themselves in a number of areas, including cyber-security, border security, and critical infrastructure protection. CPRC and CATA work together to link the police community to industry. More information is available on the CATA web site: www.cata.org

Intelligence and Investigation Associations and Services

CPRC staff regularly attend technical seminars of the Criminal Intelligence Service of Canada (CISC), the Criminal Intelligence Service of Alberta (CISA), the Criminal Intelligence Service of Ontario (CISO), and the Ontario Technical Investigators Association (OTIA). These sessions address current police technology and equipment issues.

Federal Partners in Technology Transfer (FPTT)

The Federal Partners in Technology Transfer initiative brings together the various federal science-based departments and agencies involved in technology transfer. In addition to providing a forum for discussions on best practices, this organization provides excellent networking and learning opportunities. CPRC is participates in this organization through association with the Industrial Research Assistance Program (IRAP) of the National Research Council of Canada (NRC).

Justice Institute of British Columbia

In 2004, CPRC and the Justice Institute of British Columbia (JIBC) partnered to establish "CPRC Pacific" in British Columbia. Staff Sergeant Brian Thiessen from Abbotsford Police was brought in as Project Manager for the new region.

The mandate of the JIBC, which is part of British Columbia's university, college, and institute system, is to train people working in the areas of justice, public safety, and human services. It consists of 10 academies and divisions reflecting various areas of expertise, including a Centre for Conflict Resolution, a Corrections and Community Justice Division, a Pacific Traffic Education Centre, and a Police Academy.

The Police Academy designs, develops, and delivers training to police, law enforcement agencies, government investigators, and emergency personnel. Internationally, the Police Academy delivers training for police officers in several countries worldwide, including the United Arab Emirates, Saudi Arabia, and China.

The CPRC-JIBC partnership allows the Canadian Police Research Centre to better serve both law enforcement and industry in British Columbia.

National Institute of Standards and Technology (NIST)

The National Institute of Standards and Technology (NIST) is a non-regulatory agency of the U.S. Department of Commerce. This federal technology agency seeks to develop and promote measurement, standards, and technology to enhance productivity, facilitate trade, and enhance quality of life. CPRC maintains contact with the NIST's Office of Law Enforcement Standards in order to pursue topics of mutual interest.

Northern Alberta Police Technology Innovation Council (NAPTIC)

The Northern Alberta Police Technology Innovation Council (NAPTIC) is an initiative designed to bridge the communication, understanding, and partnership gaps between police, industry, academia, and government agencies. The intent is to create more interaction and shared knowledge among these communities at a regional level. We expect that such interaction will accelerate technical innovations that can be harnessed to address challenges faced by the police community.

Ontario Association of Law Enforcement Planners (OALEP)

As an associate member, CPRC representatives attend meetings of, and/or provide input to, the Ontario Association of Law Enforcement Planners (OALEP), contributing experience and expertise in the applications of technology. This organization is an excellent forum for the discussion of new ideas of current police interest.

U.S.–Canada Bilateral Counter-Terrorism Research and Development Memorandum of Understanding

CPRC participates in the U.S.–Canada Bilateral Agreement on Counter-Terrorism Research and Development. CPRC's participation is a way to exchange information and initiate joint projects with American colleagues.

National Institute of Justice (NIJ) U.S. Department of Justice

CPRC has an agreement with the National Institute of Justice (NIJ) of the U.S. Department of Justice, to establish a program of coordination and collaboration for the research, development, evaluation, and operational use of law enforcement technologies, and to enhance the existing cooperation between the two agencies. There was a pre-existing cooperative research and development agreement (CRADA) for the RCMP Laboratory's Forensic Automotive Paint Database; in 2003–2004, this agreement led to joint projects with respect to the Firearms Reference Table (a firearms identification software database) and a multi-hit test standard for soft body armour.

Every week, CPRC receives a news summary from the National Law Enforcement and Corrections Technology Center (NLECTC), which is a part of the NIJ. CPRC passes the news summary on to all CPRC Board members, the Technology Partner Associates, and interested colleagues in law enforcement in Canada, Europe, Australia and New Zealand.

U.S. Technical Support Working Group (TSWG)

The Technical Support Working Group (TSWG) is the national forum in the United States that identifies, prioritizes, and coordinates inter-agency and international research and development requirements for combatting terrorism. CPRC personnel take part in TSWG meetings and encourage Canadian participation in international projects.

Home Office Scientific Development Branch (HOSDB), United Kingdom

CPRC has a long association with the Home Office Scientific Development Branch (HOSDB) in the United Kingdom, which was formerly known as the Police Scientific Development Branch (PSDB). While there is not currently a formal agreement, communication takes place between CPRC and HOSDB relating to research, development, evaluation and operational use of law enforcement technologies.

University of Alberta

CPRC has been working with the University of Alberta and their Industrial Liaison Office to establish a closer working relationship between leading-edge university R&D and the police community. This initiative holds much promise and has been met with enthusiasm by all participants. Of particular note is the world-class status of the university's Computer Science department in data mining and machine learning. Also, the National Institute of Nanotechnology is currently being constructed at the university. This facility, in partnership with the National Research Council, is likely to create some of the most revolutionary products since the microchip, and will have a tremendous and wide-ranging impact over the next two decades.

The Society for the Policing of Cyberspace (POLCYB)

Based in British Columbia, the Society for the Policing of Cyberspace (POLCYB) was incorporated as a not-for-profit society in June 1999 to enhance international partnerships among public and private professionals working to prevent and combat crimes in cyberspace. Its international network includes practitioners from all organizational levels in the public and private sectors. POLCYB partners include professionals who work in the areas of law enforcement, criminal justice, corporate security, and academic institutions.

CPRC has been working with POLCYB to help achieve the following goals:

- to enhance and develop global partnerships to prevent and combat cyberspace crimes
- to establish a permanent network for international criminal justice and corporate sectors to share knowledge, information, and resources to prevent and combat cyberspace crime
- to facilitate educational forums to enhance understanding of the work international criminal justice and corporate agencies undertake in preventing and combating cyberspace crimes
- to provide public education on information security

TECHNICAL REPORTS AND MEMORANDA

This section lists all the Technical Reports and Memoranda that the CPRC has published in the past five years (that is, since 1999). Copies of the full documents are available on our web site at www.cprc.org. The complete list of all published CPRC Technical Reports and Memoranda is also available on the web site.

From 2000 to 2004, the CPRC stopped using the term “Technical Memorandum.” All published CPRC project documents with scientific and technical information were called “Technical Reports” during this time.

In 2005, the CPRC reintroduced the term Technical Memorandum. Longer reports that have detailed scientific and technical information continue to be called Technical Reports. However, shorter summary reports that have important information but limited scientific or technical details are being called Technical Memoranda.

2005 Technical Reports

TR-01-2005	“The Effectiveness of Use of Force Simulation Training”
TR-02-2005	“Excited Delirium and Its Correlation to Sudden and Unexpected Death Proximal to Restraint”
TR-03-2005 E	“The Results from a Canadian National Field Trial Comparing 1,8-Diazafluoren-9-one (DFO) with Ninhydrin and the Sequence DFO Followed by Ninhydrin”
TR-03-2005 F	« Résultats d’essais sur le terrain à l’échelle du Canada visant à comparer la 1,8-diazafluorén-9-one (DFO), la ninhydrine et la séquence DFO suivie de la ninhydrine »
TR-04-2005	“Developmental Rate of Protophormia Terraenovae (R-D) Raised Under Constant and Fluctuating Temperatures, for Use in Determining Time Since Death in Natural Outdoor Conditions, in the Early Post Mortem Interval”
TR-05-2005	“Warning Shot Target Ballistic Test Evaluation”
TR-06-2005	“Decomposition and Arthropod Succession on Above Ground Pig Carrion in Rural Manitoba”

2005 Technical Memoranda

TM-01-2005	“CPRC Survey of Canadian Police Services on OC Spray Experience”
TM-02-2005	“Pedestrian Crash Test Dummy”

Previous Technical Reports

2004

TR-01-2004	“BlueBear: Inter-Agency Facial Recognition Integration”
TR-02-2004	“Effects of Amitriptyline and Nortriptyline on Time of Death Estimations in the Later Postmortem Interval Using Insect Development”
TR-03-2004	“Method Validation for Amitriptyline and Nortriptyline in Artificial Foodstuff”
TR-04-2004	“DNA Sampling from the Trigger and Handgrip of Discharged Firearms”
TR-05-2004	“Winter Tire Evaluation”

2003

TR-01-2003	“Development of a Robot Accessory for Fuming Fingerprint Evidence”
TR-02-2003	“Collapsible Baton Study”
TR-03-2003	“Comprehensive Assessment of the Potential to Extract Forensic DNA Evidence from Various Regions of Human Teeth”

2002

TR-01-2002 "PS3 Workshop"
 TR-02-2002 "Coverup: Protective Covers for Evidence"
 TR-03-2002 "Resistance of Exterior Walls to High Velocity Projectiles"
 TR-04-2002 "Insect Succession on Carrion in the Edmonton, Alberta Region of Canada"
 TR-05-2002 "Evidence Recovery from Chemically Hazardous Scenes" (Restricted)
 TR-06-2002 "The Perceived Characteristics of Holding Cell Environments"
 TR-07-2002E "Vehicular Terminals and Visual Fatigue: Patrol Officers with the Sherbrooke Regional Police (SRP)"
 TR-07-2002F « Terminaux véhiculaires et fatigue visuelle : le cas des patrouilleurs du service de police de la région sherbrookoise (SPRS) »
 TR-08-2002 "The Conducted Energy Weapon Evaluation Report"
 TR-09-2002 "Determination of Time of Death for Humans Discovered in Saltwater Using Aquatic Organism Succession and Decomposition Rates"

2001

TR-01-2001 "The Eye in the Sky: Evaluation of Police Helicopter Patrols (The London Police Service Helicopter Research Project)"
 TR-02-2001 "Evaluation of the Test Delivery of the Investigator's Guide to Internet Relay Chat"
 TR-03-2001 "Illicit Crop Information Management Using Satellite Imagery"
 TR-04-2001 "Drug Section Safety Cabinet"
 TR-05-2001 "Crowd Management and Conflict Resolution Pilot Workshop Evaluation"
 TR-06-2001 "Arson Crime Linkage Analysis System (ACLAS)"
 TR-07-2001 "Canadian Police College Library Catalogue on the Internet"
 TR-08-2001 "Underwater Digital Photography Equipment for Evidence Recording"
 TR-09-2001 "Hangings: A Practical Study of Ligatures and Suspension Point Morphology"
 TR-10-2001 "The Statistical Analysis of Footprint Data Report 2000-2001"
 TR-11-2001 "Side Scan and ROV Based Sonar for Locating Submerged Cadavers"
 TR-12-2001 "Conducting Internet Operations & Investigations Manual (CIOIM2000)"
 TR-13-2001 "CIOIM Supplement 1: Child Pornography Investigations (CIOIM Supp1)"
 TR-14-2001 "CIOIM Supplement 2: Using AOL & ICQ (CIOIM Supp2)"
 TR-15-2001 "CIOIM Supplement 3: Deception Hosts (CIOIM Supp3)"
 TR-16-2001 "CIOIM Supplement 4: Digital Officer Safety (CIOIM DOS)"

2000

TR-01-2000 "TASER Technology Research Paper"
 TR-02-2000 "Update on Footprint Research"
 TR-03-2000 "Proposals for Modification and Design Changes to Jail/Holding Cells: Psychological Impact on Aggressive and Self Destructive Behaviour"

1999

TR-01-99 "Low Back Pain Among RCMP Officers: An Investigation Into Vehicles, Duty Belts and Boots"
 TR-02-99 "Back Pain in a Large Canadian Police Force"

Previous Technical Memoranda

2000

TM-01-2000	"Evaluation of the Millennium Backsaver Suspender"
TM-02-2000	"Needs Assessment for Microwave Imaging"
TM-03-2000	"Nylon Duty Belt Field Trials"
TM-04-2000	"Evaluation of the ResQ Disc"
TM-05-2000	"Introduction to Security: Computer, Internet, Network Security (Secman2000)"

1999

TM-01-99	"Saving Court Time Using A Visual Presenter"
TM-02-99E	"Crime Scene Protocols for DNA Evidence"
TM-02-99F	« Protocole de recherche d'éléments de preuve génétiques sur les lieux du crime. »
TM-03-99	"Evaluation of International Colour Code System"
TM-04-99	"Practical Applications of Digital Imaging in the Field of Forensic Firearms Identification"
TM-05-99	"12 Gauge Bean Bag Ammunition Penetration"
TM-06-99	"Laser Range Finders in Forensic Firearms Examination"

SUBMITTING R&D PROPOSALS

At the centre of this annual report you will find a research and development (R&D) proposal form. It should be completed as fully as possible. An Executive Officer must sign the form (Chief of Police, Commanding Officer, or equivalent).

You may keep the original and submit a copy to us.

The focus of the CPRC is research, development, or evaluation of police equipment.

Guidelines for Acceptance and Establishing Priorities

How does it make a difference?

The priority assigned to each project proposal will be based on a review of the following factors:

- Risk factor: frequency of potential use or occurrence
- Operational impact: how widespread is the need in the community?
- Dollar implications: resource saving potential/dollar cost
- Progress/Innovation: operational effectiveness and innovation
- Attainability: technical risks and costs (adapt or create)
- Partnerships: potential for risk and cost sharing, degree of commercial viability

A project must also fit one of the following three categories.

- CATEGORY A — Health and safety: protecting the police in hazardous situations
- CATEGORY B — Operational effectiveness: fighting crime, gathering information, intelligence and evidence
- CATEGORY C — Protecting the public: traffic, custody, crime prevention

For example, a category B project that will save significant resources, be applicable throughout the community, and has a high chance of success may be given the same or higher priority than a project that may protect a police officer in a hazardous situation that occurs infrequently. Similarly, protecting the public with a device that controls high speed chases simply and safely may score first overall in the reviews. Our goal in prioritizing project proposals is to effectively and objectively reflect the priorities of the overall police community and its clients.

The results of the review will be retained on the project file for reference.

PROTECTION OF INTELLECTUAL PROPERTY ASSETS: **CPRC'S Role in Technology Transfer**

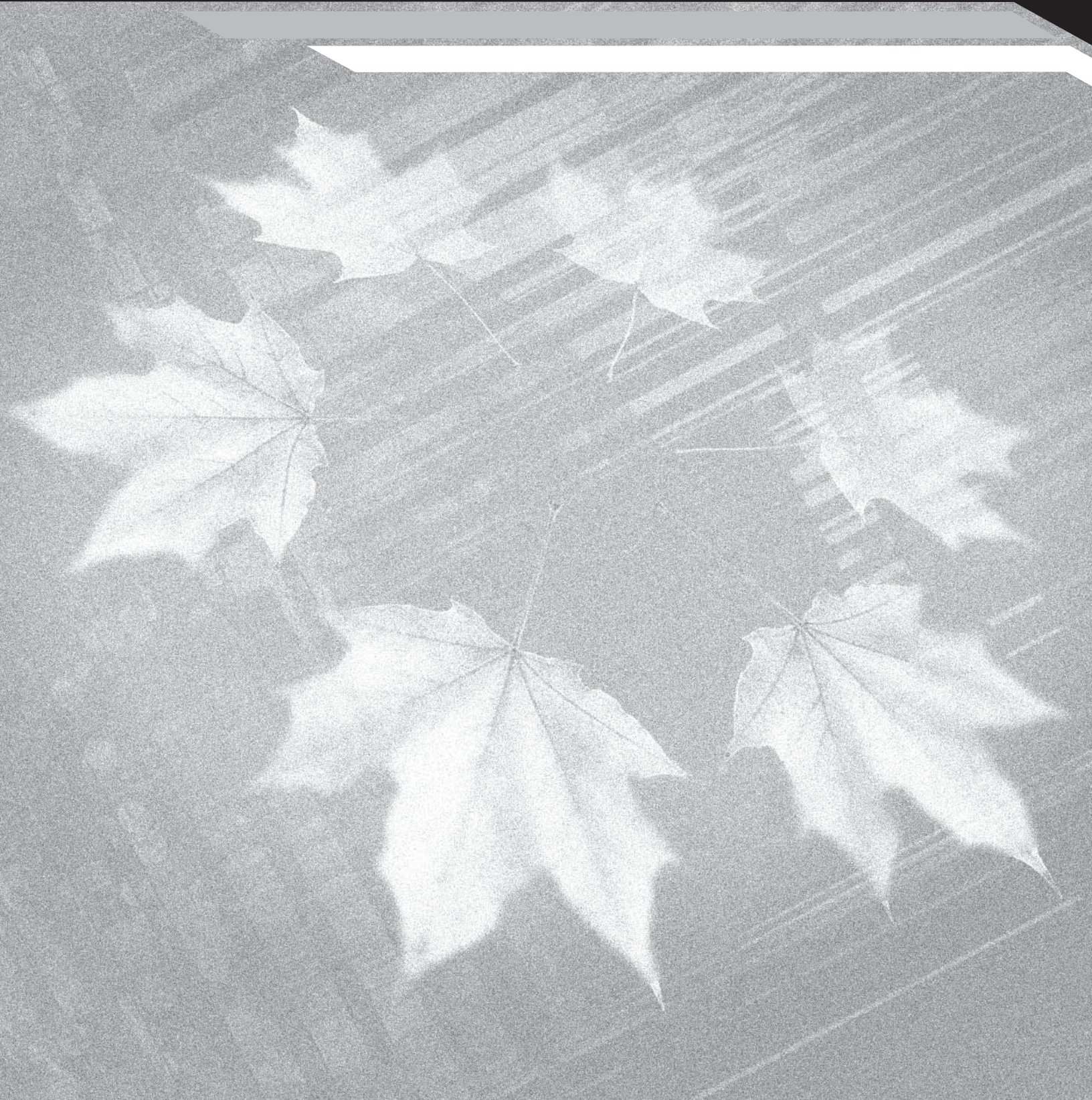
Some of our most innovative solutions come from our own employees. Police personnel faced with not having the proper tools for their jobs will often design and build a prototype themselves. Do you have a piece of equipment or software developed by yourself or unit? Does your daily work involve research and development? The creation of a new invention or the development of a new technology is an example of an "intellectual property (IP) asset".

Intellectual property can fall into several broad categories. Some are defined by statute and are referred to as "hard" rights. These include assets that can be protected by patent, trademark, copyright, industrial design, integrated circuit topography, and plant breeders' rights. Others, referred to as "soft" rights, include trade secrets, know-how, and show-how. These really are assets and not only do they have value commercially, they can help you and your colleagues do your jobs more safely and effectively.

Collaboration with the private-sector is often the next step in order to design and build a prototype for field trial. Following such a successful trial, the collaborator may wish to license the technology and take it to market.

Police agencies can obtain general information regarding the management of their own IP assets from the CPRC. The CPRC can assist you in the technology transfer process and can provide general information regarding the management of IP assets.

A video-cassette entitled "Intellectual Property - Protecting Your Technology", is available from the CPRC upon request by fax at (613) 949-3056 or email at: cprc@cprc.org.





“RESEARCH AND DEVELOPMENT
PROPOSAL”

« PROPOSITION EN MATIÈRE DE
RECHERCHE ET DÉVELOPPEMENT »

- APPEND EXTRA PAGES IF INSUFFICIENT SPACE
- ELECTRONIC SUBMISSION FORM IS ALSO AVAILABLE AT WWW.CPRC.ORG

- ANNEXER DES PAGES SUPPLÉMENTAIRES SI L'ESPACE EST INSUFFISANT
- POUR OBTENIR UN FORMULAIRE ÉLECTRONIQUE COMPLET, CONSULTER WWW.CPRC.ORG

PLEASE TYPE AND FORWARD ORIGINAL TO:

**CANADIAN POLICE RESEARCH CENTRE (CPRC)
NATIONAL RESEARCH COUNCIL CANADA
BUILDING M-55, 1200 MONTREAL ROAD
OTTAWA, ON K1A 0R6
Fax (613) 949-3056**

VEUILLEZ DACTYLOGRAPHIER ET TRANSMETTRE L'ORIGINAL À
L'ADRESSE SUIVANTE :

**CENTRE CANADIEN DE RECHERCHES POLICIÈRES (CCRP)
CONSEIL NATIONAL DE RECHERCHES CANADA
ÉDIFICE M-55, 1200 CHEMIN MONTREAL
OTTAWA (ONTARIO) K1A 0R6
TÉLÉCOPIEUR : (613) 949-3056**

**CPRC FILE NO.
N° DE DOSSIER DU CCPR**

**ORIGINATOR FILE NO.
N° DE DOSSIER DE L'AUTEUR**

1. PROJECT TITLE

TITRE DU PROJET

2. ORIGINATOR/CONTACT (NAME - ADDRESS - TEL. NO)

AUTEUR/PERSONNE-RESSOURCE (NOM - ADRESSE -N° DE TEL.)

3. OBJECTIVE

OBJECTIF

**4. BENEFITS - HOW WOULD THE PRODUCT ASSIST
POLICE OPERATIONS?**

**AVANTAGES - QUELLE SERAIT L'UTILITÉ DU PROJET PROPOSÉ POUR
LES OPÉRATIONS POLICIÈRES ?**

**5. HAS RELATED RESEARCH BEEN DONE BEFORE?
(IF YES, INCLUDE REFERENCES/CITATIONS)**

**A-T-ON DÉJÀ EFFECTUÉ D'AUTRES RECHERCHES DE CE GENRE ?
(SI OUI, INDIQUER LES RÉFÉRENCES BIBLIOGRAPHIQUES)**

6. CONSEQUENCE OF NON-APPROVAL - IF THIS RESEARCH IS NOT APPROVED WHAT WOULD THE CONSEQUENCES BE? WHAT ARE YOUR CONTINGENCY PLANS TO MEET THE OPERATIONAL NEEDS ADDRESSED BY THIS RESEARCH?

CONSÉQUENCES DU REFUS - SI CETTE RECHERCHE N'EST PAS APPROUVÉE, QUELLES SERONT LES CONSÉQUENCES ? QUELLES AUTRES OPTIONS RÉPONDRAIENT AUX BESOINS OPÉRATIONNELS VISÉS PAR CETTE RECHERCHE ?

7. ASSISTANCE BY ORIGINATOR - HOW CAN YOUR ORGANIZATION ASSIST WITH THIS PROPOSED RESEARCH? PLEASE PROVIDE DETAILS

- (A) FUNDING?
- (B) TECHNICAL RESOURCES?
- (C) OTHER WAYS?

AIDE DE L'AUTEUR - COMMENT VOTRE ORGANISATION PEUT-ELLE CONTRIBUER

À CE PROJET DE RECHERCHE ? VEUILLEZ PRÉCISER

- A) FINANCEMENT ?
- B) RESSOURCES TECHNIQUES ?
- C) AUTRE ?

8. RESEARCH PERFORMER - WHO WOULD YOU RECOMMEND DO THE PROPOSED RESEARCH? PLEASE PROVIDE DETAILS.

- (A) YOUR AGENCY/DEPARTMENT?
- (B) OTHER DEPARTMENT/UNIVERSITY/RESEARCH AGENCY

PERSONNE CHARGÉE DE LA RECHERCHE - À QUI CONFIEREZ-VOUS CE PROJET DE RECHERCHE ? VEUILLEZ EXPLIQUER

- A) VOTRE ORGANISME/MINISTÈRE?
- B) AUTRE MINISTÈRE-UNIVERSITÉ-ÉTABLISSEMENT DE RECHERCHE

SIGNATURES

ORIGINATOR/AUTEUR

DATE

SUPERVISOR/SUPERVISEUR

DATE

EXECUTIVE OFFICER OF ORIGINATOR'S ORGANIZATION/
CADRE SUPÉRIEUR DE L'ORGANISATION DE L'AUTEUR

DATE