

2007 ANNUAL REPORT  
OF  
THE BIOLOGICAL AND CHEMICAL DEFENCE  
REVIEW COMMITTEE

**THE COMMITTEE**

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November 2007

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## INTRODUCTION

The policy of the government of Canada is to press for global, comprehensive and verifiable treaties to ban all biological and chemical weapons. Even so, the threat from such weapons persists. Accordingly, Canada has an obligation to ensure that members of the Canadian Forces (CF) have adequate training and equipment to protect themselves against exposure to chemical and biological agents. This protection is required for deployments on foreign soil and, as the threat of terrorist action exists in Canada, it is also required for any military response to domestic emergencies.

The Canadian public has the right to be assured that Canada's policy of maintaining only a defensive capability in this field is fully respected at all times, and that any research, development and training activities undertaken pose no threat to public safety or the environment.

To facilitate this assurance, the Biological and Chemical Defence Review Committee (BCDRC) was established by the Minister of National Defence in May, 1990. The Committee is mandated to review annually the research, development and training activities in biological and chemical defence (BCD) undertaken by the Department of National Defence (DND) to ensure that they are defensive in nature and conducted in a professional manner with no threat to public safety or the environment.

The BCDRC is usually comprised of a chairperson and two members representing disciplines relevant to BCD such as chemistry, microbiology and toxicology. The Chairperson is appointed for a term of five years by the Deputy Minister of National Defence (DM) and the Chief of the Defence Staff (CDS) from amongst the existing Committee members. Committee members are recommended by learned Canadian scientific societies and are chosen by the Chairperson. The present members are:

Chair	Dr. Kenneth L. Roy	Professor Emeritus University of Alberta (Microbiology)
Member	Dr. Pierre G. Potvin	Professor York University (Chemistry)
Member	Dr. Sheldon H. Roth	Professor University of Calgary (Toxicology and Pharmacology)

Commencing in 1990, Annual Reports have been submitted. All have been made available to the public and many are reproduced on the BCDRC Internet web page ([www.vcds.forces.gc.ca/bcdrc/intro\\_e.html](http://www.vcds.forces.gc.ca/bcdrc/intro_e.html)). The reports use many military and government abbreviations and acronyms. The abbreviations are used only after the full

terms they represent are spelled out at least once. However, to make the reports easier for the reader, the abbreviations are summarized in Annex C.

## **SUMMARY**

This report records the 2007 year activities of the BCDRC. Included in annexes are the Committee's review of the current state of the implementation of the recommendations made in the 1988 Barton Report and the progress made on the implementation of recommendations made in previous BCDRC reports. The BCDRC was itself organized as the result of a recommendation in the Barton Report.

The BCDRC has concluded that there are neither indications of duplicity within Canada's BCD program nor evidence that offence related activities are being conducted either on behalf of Canadian authorities or to comply with any multilateral treaty commitment.

The Committee found that facilities at DRDC Suffield are overcrowded and deteriorating. It recommends that steps be taken to rectify this problem before the conditions become dangerous.

The Committee also noted that the Navy users of BCW warning devices are losing confidence because the instruments are prone to false positive reports. We hope to see further improvements to the technology that will enhance the detection reliability.

## **COMMITTEE ACTIVITIES - - 2007**

During 2007, the BCDRC made its annual visits to DND establishments involved in the BCD program. These establishments included:

National Defence Headquarters (NDHQ) with briefings from or meetings with:

- Defence R&D Canada (DRDC) Corporate Centre, including meetings with the Assistant Deputy Minister (Science and Technology), the Acting Director for Human Performance and several members of his staff and the Director of the Chemical, Biological, Radiological/Nuclear Research and Technology Initiative (CRTI), a federal government program led by DRDC;
- The Directorate for Arms Proliferation Control Policy (DAPC Pol);
- The Canadian Forces Health Services Group/Director Health Services Operations/Operational Medicine (CF H Svcs Gp Op Med);

Headquarters, Maritime Forces Pacific (MARFAC), Esquimalt, B.C., home of the Navy's Pacific fleet, including a visit to the Damage Control Division (part of the

MARPAC Fleet School) and aboard HMCS Winnipeg, a Halifax Class Frigate undergoing a refit;

Canadian Forces Nuclear, Biological and Chemical School (CFNBCS) (which is joined with the Canadian Forces Firefighter Academy) (Borden, Ontario) with briefings about its responsibilities, resources and training;

The Royal Military College, Kingston (RMC) with visits to the Chemistry Department and the Department of Applied Military Science;

DRDC Suffield (Alberta) with briefings about the responsibilities, resources and activities of the research establishment and the BCD program. The Committee also heard about the status of the Counter Terrorism Technology Centre (CTTC) and was briefed about some CRTI projects in which Suffield participates. The Committee toured some facilities and met with scientists from several research groups in the establishment. Time was made available to allow any member or groups of members to approach the Committee to discuss matters of concern. While at DRDC Suffield, the BCDRC met with the director general, the deputy director general/head of CTTC, the acting head of the BCD program and other members of the senior staff. The Committee held discussions with the General Safety Officer and the Environmental Safety Officer.

Outside of DND, the BCDRC met with officers in Foreign Affairs Canada to discuss the Chemical Weapons Convention (CWC) and the Biological and Toxins Weapons Convention (BTWC) and Canada's participation in them.

In November, Dr. Roy and Dr. Roth attended the Chemical, Biological, Radiation and Nuclear (CBRN) Defence Workshop in Kingston, Ontario.

The BCDRC reviewed DND's 2007 BCD Research and Development (R&D) Program and determined that it was in accordance with current Canadian Government policy. Current R&D contracts and publications lists were examined. In addition, the DRDC accountability document was scrutinized.

To enhance our perspective of the concerns of Canadians in Canada's BCD activities, the Committee invites any group of concerned citizens to meet and discuss issues. Any group or individual that wishes to make representation to the Committee should contact the executive officer. Contact information is found in the Introduction section of the web site.

In the past, during meetings with groups of citizens and of the media, some concerns about DND's BCD program have been identified and reasoned responses were given by the Committee at those times. These comments were repeated in the BCDRC annual report until 2001 (the 2001 and earlier reports are available on this web site). Please refer to these reports for explanations of the difference between offensive and

defensive biological and chemical research and means of obtaining information about BCD from DND.

## **DISCUSSION**

At DRDC Suffield, the number of employees has nearly doubled from 139 to 260 in five years. Facilities have not kept pace with this increase in staff although there have been some small infrastructure additions. The exterior appearance of the main building (Building 1) is that of a mid-sized, government office building but it houses both administrative offices and research laboratories, including Level 2 and Level 3 containment laboratories where highly virulent biological agents are handled. Overcrowding has meant that more people are working in the proximity of these labs and other laboratories where chemical agents are handled.

A second building that the BCDRC visits annually is Building 10. This one-storey building has a badly leaking roof. It is also the home of some of the most impressive facilities at DRDC Suffield, including a thoroughly modern surgical suite and a new laboratory established to collect data in accordance with good laboratory practices (GLP). In 2000, BCDRC recommended that all data at DRDC Suffield be collected and records maintained according to GLP guidelines in order to facilitate the Health Canada approval process for new medical countermeasures against chemical and biological agents. While inspecting this new facility in 2006, during a rainfall, the Committee watched water dripping on the floor in several locations. The roof had deteriorated further by the time of the 2007 BCDRC visit.

The Suffield infrastructure is overcrowded and decaying but a good solution to the problem is, at this time, unaffordable. There is little point to making piecemeal improvements to the existing buildings. Building 1 can be retained as an office complex but new buildings should be constructed to contain the laboratories. The plan at DRDC Suffield is to build these new structures in an open area a few kilometers from the existing buildings on Base Suffield. However, the DRDC Corporate Headquarters cannot afford to provide funds for the construction. The Suffield building project is lumped with similar projects at other DRDC facilities. The research laboratories at DRDC Toronto and DRDC Valcartier are also deteriorating. It is estimated that the costs for improving all three establishments would be approximately \$370 million. The need is real but the competition for public money is fierce. In DND, the commitment to Afghanistan and the need to renew equipment in the Army, Navy and Air Force are high priority projects that compete for scarce money.

The BCDRC believes that biological and chemical warfare (BCW) remain a threat to the Canadian Forces. However, the Committee is not in a position to compare the need for new facilities at DRDC Suffield with other needs of the Canadian Forces. Producing a plan to improve the facilities and organize the priority for new construction remains a function of DND and DRDC Corporate. BCDRC can only report that the condition of the facilities at DRDC Suffield is deteriorating and the facilities themselves may become a hazard.

During visits to the Navy on the East Coast in 2004, false positive warnings were discussed as a problem with the Forewarn biological detector system on board the Halifax class destroyers. Forewarn has since been replaced by Biosentry, an upgrade of Forewarn, but the complaints about the system remain. It was reported to the Committee that the problem of false positives also exists with the Shipboard Chemical Detection System. The detectors may work well in normally clean air environment but aboard ship, with exposure to swirling fumes and smoke from burning diesel fuel, the systems are, apparently, less reliable.

## **CONCLUSIONS**

At DRDC Suffield, The deterioration of the buildings and their overcrowding increase the potential that an accident with a chemical or biological agent could have serious results.

The incidents of false positive responses in both the chemical and biological detection systems aboard the Halifax class destroyers reduce the Navy's confidence in the systems. We hope to see further improvements to the technology that will enhance the detection reliability.

## **RECOMMENDATION**

The BCDRC recommends that steps be taken to rectify problem of overcrowded and deteriorating infrastructure at DRDC Suffield before the conditions become dangerous.