
2013 ANNUAL REPORT

Biological and
Chemical Defence
Review Committee

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Biological and Chemical Defence Review Committee

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BIOLOGICAL AND CHEMICAL DEFENCE REVIEW COMMITTEE

TABLE OF CONTENTS

TABLE OF CONTENTS.....	1
INTRODUCTION.....	1
SUMMARY.....	3
COMMITTEE ACTIVITIES 2013.....	4
OBSERVATIONS.....	7
CONCLUSIONS.....	15
RECOMMENDATIONS.....	15
STATUS OF COMMITTEE RECOMMENDATIONS.....	16
ANNEXES.....	16

INTRODUCTION

The policy of the Government of Canada is to press for global, comprehensive and verifiable treaties banning all biological and chemical weapons. To this end, Canada is a State Party to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction (the Biological and Toxin Weapons Convention or BTWC) and also, to the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction (the Chemical Weapons Convention or CWC).

However, for as long as the threat from such weapons endures, be they in the hands of state or, potentially, non-state actors, the Government has a recognized obligation to ensure that members of the Canadian Armed Forces (CAF) are adequately equipped and trained to protect themselves from exposure to biological and chemical warfare agents. Such protection is required not only during the course of operational deployments abroad, but also in the context of military support to responses to terrorist incidents at home or other domestic emergencies involving these agents.

This said, the Canadian public, as well as the international community, have the right to be assured that the Government's policy of maintaining only a defensive capability in this field is fully respected at all times and that any related research, development or training activities

undertaken are conducted in a professional manner with minimal risk to public safety or the environment.

To facilitate this assurance, the Minister of National Defence, in May 1990, directed the establishment of the Biological and Chemical Defence Review Committee (BCDRC or, “the Committee”) as an adjunct to the Defence Scientific Advisory Board. Today, the BCDRC operates at arm’s length from Government. Its mandate is to provide an independent, third-party review of the Biological and Chemical Defence (BCD) research, development and training activities undertaken by the Department of National Defence (DND) and the Canadian Armed Forces (CAF) with a view to assessing whether they are defensive in nature and conducted in a professional manner with no threat to public safety or the environment.

The BCDRC normally comprises three experts in scientific disciplines relevant to BCD such as chemistry, microbiology and toxicology. One of these is selected by the Committee to serve as Chair. New members are appointed by the Chair on the basis of nominations from such professional societies and associations as the Royal Society of Canada, the Canadian Society of Microbiologists, the Chemical Institute of Canada and the Society of Toxicology of Canada. The Chair also arranges for an administrative staff member to function as the Committee’s Executive Officer.

Committee membership as of 1 April 2013 was as follows:

Dr. Pierre G. Potvin (Committee Chair)

Professor of Chemistry

York University

Dr. Julia M. Focht

Professor of Microbiology

University of Alberta

Dr. Sheldon H. Roth

Professor Emeritus of Physiology & Pharmacology and Anaesthesia

University of Calgary

Brig.-Gen. (Ret’d) J.J. Selbie serves as Executive Officer to the Committee

The Committee’s annual cycle of activity includes:

- Briefings in Ottawa from representatives from National Defence Headquarters (NDHQ) and the Department of Foreign Affairs and International Trade (DFAIT) on BCD issues
- Visits to selected CAF training establishments, operational formations and units where BCD activity takes place, and to associated government (mostly DND) research and development facilities such as the Defence Research and Development Canada (DRDC) centre at Suffield, Alberta (which is visited every year)
- Attendance at selected BCD exercises, training courses, workshops, seminars, symposia, etc. conducted by the CAF or DND
- Publication of an Annual Report in the public domain with key observations, findings and recommendations

The Committee's Annual Reports, dating back to 1991, are available on its website (www.bcdrc.ca). No report was produced in 2010 due to a delay in renewing the Committee's mandate.

The work of the Committee is funded by a contribution from the Government of Canada Department of National Defence.

SUMMARY

Having detected no evidence to the contrary during the course of its 2013 briefing and visit programme, the Committee concludes that:

- Canada's policy of maintaining a purely defensive biological and chemical warfare capability is fully respected by the DND and the CAF
- The BCD research, development and training activities undertaken by the DND and the CAF are compliant with Canada's obligations as a State Party to the BTWC and to the CWC
- The BCD research, development and training activities undertaken by the DND and the CAF, as observed by the Committee, pose no apparent threat to public safety or the environment
- There is no cooptness or duplication within the BCD program
- In addition to its principal conclusions, the Committee, drawing upon its observations made during the course of its visits to DND and CAF training establishments, operational formations, units and research and development facilities, offers three new recommendations aimed at reinforcing the good management and effectiveness of Canada's BCD program.

COMMITTEE ACTIVITIES 2013

During the course of 2013, the Committee conducted the following briefing, visit and related activities:

- **Defence Research and Development Canada – Suffield Research Centre (29 April – 2 May).** The Committee's visit to DRDC Suffield incorporated a full program of presentations, discussions, information exchanges and verification activities including the following:
 - An overview presentation by the Centre Director, DRDC Suffield covering organization, resource allocation and notable activities and initiatives undertaken during the past year
 - A presentation and discussion of the current BCD research and development program at the Centre and specialized BCD training delivered at the Counter-terrorism Training Centre
 - A presentation and discussion of recent and current safety and environmental stewardship program initiatives
 - A presentation and discussion of infrastructure and other corporate services issues related to safety and environmental protection
 - A review and discussion of local developments in connection with relevant recommendations contained in the BCDRC 2012 Annual Report
 - Review and discussion of chemical holdings including management protocols and procedures and an inspection of chemical holdings and facilities
 - Review and discussion of the Chemical Safety Program
 - Review and discussion of the Biological Safety Program
 - Review of Material Transfer Agreements executed between May 2012 and April 2013
 - Review of all BCD contracts awarded to outside agencies
 - Contractor briefings
 - Informal laboratory visits and research and development project briefings
 - Tour and discussion of facilities at the Cameron Training Centre
 - Review and discussion of biological, virology and toxin holdings including management protocols and procedures and an inspection of Bio-safety Level 2 biological, virology and toxin holdings and facilities
 - Video inspection of BSL 3 selected agent holdings

- Review and discussion of the transfer of pathogenic biological materials between May 2012 and April 2013 including procedures for control and tracking by receiving agencies
- Observation of a chemical emergency response exercise
- Review and discussion of various biological and chemical warfare agent (BWA and CWA) threat issues
- Review and discussion of the discovery and safe disposal of munitions at CFB Suffield suspected to contain CWA
- Private meetings with the General Safety Officer, Chair of the Biohazard safety Committee, Acting Chair of the Chemical Safety Committee and the Environmental Officer
- Meeting with the Base Surgeon
- A meeting with the Commander of CFB Suffield

At the end of its visit, the Committee debriefed the Centre Director and his executive management team on our initial observations and conclusions.

- **Canadian Forces Fire and CBRN Academy – CFB Borden (27 May).** The Committee was briefed on the Academy’s role, mission and tasks; organization and facilities; BCD doctrine, tactics, techniques and procedures; training courses, curricula, training audiences and graduates; practical training activities and exercises; live agent training activities at DRDC Suffield; and, current initiatives and challenges. The Committee also toured a display of BCD equipment and paid a courtesy call on the Commander Canadian Forces Support Training Group – the Academy’s supervising formation.
- **Canadian Special Operations Regiment – CFB Petawawa (28 May).** The Committee was briefed on the Regiment’s role; its BCD capability; and its approach to BCD related training. Members also viewed a display of in-service BCD personal protective equipment and discussed its use with members of the unit.
- **427 Special Operations Aviation Regiment – CFB Petawawa (28 May).** The Committee was briefed on the Squadron’s role; its BCD capability; and its approach to BCD related training. Members also viewed aircrew attired in full specialized BCD personal protective equipment in a helicopter and discussed with them and with their supporting ground-crew the challenges associated with flying operations under chemical or biological threat conditions.
- **Assistant Deputy Minister Policy – NDHQ Ottawa (29 May).** With the assistance of representatives from DFAIT, the Committee was briefed on changes to the strategic security environment as well as the status of the CWC and BTWC, including an update on compliance by the DND and the CAF. The Committee also was briefed on recent

counter-proliferation support and other threat reduction activities conducted under the auspices of the DFAIT-led Global Partnership Program.

- **Chief of Defence Intelligence – NDHQ Ottawa (29 May).** The Committee was briefed on the current assessed biological and chemical warfare agent threat.
- **Chief of Force Development – NDHQ Ottawa (29 May).** The Committee was briefed by officers of the Directorate of Chemical, Biological, Radiological and Nuclear Defence (D CBRN Defence) on the role and organization of the Directorate; BCD policy and doctrine; and, the status of the BCD system capital procurement program and related issues.
- **Canadian Forces Health Services Group Headquarters - Ottawa (30 May).** The Committee was briefed by the Surgeon General's staff on operational medicine biological and chemical defence research and development including medical countermeasures and regulatory affairs.
- **Defence Research & Development Canada – Centre for Security Science - Ottawa (30 May).** The Committee was briefed on the status of the new Canadian Safety and Security Program (CSSP) with an emphasis on program efforts aimed at defeating chemical and biological threats in the public safety realm.
- **Defence Research and Development Corporate Office - Ottawa (31 May).** The Committee met with Dr. Marc Fortin, Chief Executive Officer Defence Research & Development Canada and Assistant Deputy Minister for Science & Technology Department of National Defence for the purpose of sharing the Committee's preliminary observations from its visits, and to obtain Dr. Fortin's views on current issues related to DRDC work in the realm of BCD.
- **Exercise FIRE DRAKE – DRDC Suffield (28 October).** Dr Roth, accompanied by the Executive Officer and on behalf of the Committee as a whole, observed the conduct of FIRE DRAKE, an exercise carried out annually at DRDC Suffield's Counter-Terrorism Technology Centre in support of the National Chemical, Biological, Radiological, Nuclear and Explosives Response Team.
- **CBRN Defence Workshop – Ottawa (20 November).** The Committee's Executive Officer attended this workshop which brought together representatives of the various stakeholders in CBRN Defence for the purpose of exchanging information on current activities and issues.
- **BCDRC Wikipedia Article.** The Committee created a BCDRC Wikipedia article to complement the BCDRC website as a means of making the public aware of its work. (See en.wikipedia.org/wiki/BCDRC or fr.wikipedia.org/wiki/CEPDBC)

OBSERVATIONS

General. The Committee was warmly welcomed and received complete and proactive cooperation of authorities at all the headquarters, units, agencies and sites visited. The presentations and other information packages received were relevant, focused and detailed.

Threat. The briefings that the Committee received from the Chief of Defence Intelligence and at DRDC Suffield attested to a continued credible biological and chemical warfare agent threat.

Defensive Capability. During the course of its briefings and visits, the Committee had occasion to view capability requirements and procurement plans; research and development facilities and activity; in-service equipment and other materiel; doctrine; and, training. In all instances, the Committee was satisfied that these pertained solely to the defensive functions of biological and chemical agent detection, identification and monitoring; warning and reporting; protection; hazard management (e.g., decontamination); and, medical counter-measures. The Committee assesses such functions as consistent with the maintenance of a purely defensive capability.

Compliance with Policy and International Conventions

DND/CAF chemical and biological defence policy is set out in Defence Administrative Order and Directive (DAOD) 8006-0 (accessible on the Internet). On 27 August 2013, the Committee received written certification from Director General Science and Technology - Force Employer and Director General Science and Technology – Centre Operations that the projects in the 2012 DRDC Canada R&D program related to BCD and for which they are responsible, are in compliance with the provisions of DAOD 8006-0.

From time to time, the Organization for the Prohibition of Chemical Weapons (OPCW) conducts verification inspections of Canadian chemical defence research and development facilities. The Committee was informed that the OPCW conducted a verification inspection of the Canadian National Single Small-scale Facility (CNSSSF) at DRDC Suffield on 16-18 April 2013. We understand, having been shown the draft inspection report, that the OPCW inspectors found the CNSSSF facility to be compliant with Canada's obligations pursuant to the CWC. The Committee will review the Final Inspection Report during its next visit to Suffield.

It should be noted that from time to time, due to historical activities at CFB Suffield, unexploded munitions are found on the restricted access experimental proving ground or in the range and training area at Suffield that should be treated as suspected Chemical Weapons. These munitions are reported to NDHQ and the OPCW to obtain permission for their destruction. As indicated in our 2012 Annual Report, DRDC Suffield informed the Committee of the discovery, on 1 and 21 November 2012, of two such munitions in the form of unexploded artillery projectiles suspected to contain mustard or phosgene CWA. The projectile discovered on 1 November 2012 was destroyed on 23 April 2013 in the presence of OPCW observers. The projectile discovered on 21 November 2012 was destroyed on 10 April 2013. A new discovery of a suspect munition was made on 15 May 2013. This munition, again an artillery projectile, was destroyed on 4 July 2013.

Finally, we received a report of a discovery, on 13 October 2013. The munition, an artillery projectile, was destroyed on 19 November 2013 in the presence of OPCW observers.

Safety

The Committee observed that at all units and locations visited in 2013, there existed a positive culture of safety and environmental stewardship.

Holdings of viral, toxin and other biological samples at DRDC Suffield were inspected and verified. Holdings have been consolidated and centralized and continue to be slowly reduced to the minimum required for current defensive research. In this connection, effort is ongoing aimed at bringing the inventory management information system up to full functionality – we hope to see this goal realized by the time of our next visit.

The bio-hazard safety committee at DRDC Suffield continues to operate effectively. Last year, our Committee noted the view of the bio-hazard committee that additional vaccines and anti-toxins, not currently approved for use in Canada, should be made available to defence scientists whose work may place them at increased risk. We understand that this issue has been alleviated by the availability of vaccines and anti-toxins through other sources. It is further understood that the DRDC Medical Advisor, who is a physician positioned in the Alberta healthcare system, is assisting the Bio-hazard Safety Committee in this matter. In view of this development, the BCDRC will close the recommendation it made on this subject in its 2012 Annual Report.

During our meeting with the bio-safety officer, she reported three incidents of laboratory glove tears over the past year. She indicated that while the existing response protocol is considered adequate, the stock of gloves will be turned over more frequently with a view to avoiding any degradation of their protective utility.

The Bio-safety Level III (BSL III) suites remain subject to a rigorous annual maintenance program including annual controls failure testing (critical HVAC controls hardware was upgraded this year) with a view to meeting Public Health Agency of Canada and Canadian Food Inspection Agency re-certification requirements. That said, the suites will soon reach the end of their life cycle. We therefore were happy to hear that a project has been initiated (timeline to be determined) to erect new modular BSL3 laboratories to be housed in a superstructure adjacent to Building 1. These modular units will serve to span the gap between the closure of the existing BSL3 facilities in Building 1 and the expected completion of the new laboratory campus at Trig 1 in 2023/24.

We were also pleased to learn of the recent renovation and refurbishment of the vivarium with a view to ensuring that animal care requirements continue to be met.

The Committee observed that control and tracking procedures for chemical holdings remain in good order.

During our inspection of the CNSSSF, we were pleased to note the installation of a new fume hood for CWA storage and the refurbishment of the non-absorbent floor covering. That said, we pointed out that the floor drains, which are dried out, and the dumbwaiter shaft represent

potential conduits for volatiles in the event of a spill, and asked if there was potential for recirculation of fume hood exhaust on the roof of the building. These possible risks should be assessed and remediated if determined to be substantive.

In our 2011 Annual Report, we recommended that the necessity for the licensed facility at the Royal Military College that is operated for the purpose of producing small amounts of CWA for protective research purposes, be evaluated. Were the requirement to remain, we further recommended that arrangements be put in place for the exchange of laboratory best practices between RMC and DRDC Suffield. The DND/CAF responses to this recommendation in 2011 and again in 2012 leave us uncertain as to the actual situation regarding this facility. We are led to believe that the facility continues to operate subject to the provisions of a new and more restrictive license but that the exchange of best practices has not occurred. As such, we will keep our recommendation open until such time as we receive a clear and conclusive response.

A new Chemical Safety Officer has been appointed at DRDC Suffield and the chemical safety committee has recently been restructured and refocused. It is also now included as an approving authority in DRDC Suffield's On-line Turbo Approval Process (ONTAP) for research and development work. (As described in the BCDRC's 2012 Annual Report), ONTAP replaces paper-based Study Approval Forms, Field Trial Plans and associated documents and is intended to improve the process for ensuring that all essential safety, regulatory, scientific integrity, ethical and resource requirements are fulfilled prior to the commencement of new research or development initiatives or supporting activities.)

During our 2012 visit to DRDC Suffield, we were briefed on the launch of a Chemical Safety Review the mandate of which is to compare current local procedures with best practices in allied defence laboratories with a view to identifying gaps or deficiencies at Suffield and making recommendations for their rectification. Amongst the review's recommendations are proposals to standardize safety procedures and equipment across laboratories; improve training and certification procedures for chemical agent workers; increase agent security; better define risks associated with various laboratory operations; dedicate resources to ensuring consistent compliance with chemical safety policies; and, to modify certain emergency response procedures. A Chemical Safety Initiatives Working Group is charged with the coordination of the implementation of recommendations. Significant progress is being made – a good example being the completion of a comprehensive chemical agent worker certification framework applicable to workers in both laboratory and field operations settings. Notwithstanding the departure of some of the personnel involved in the original review due to restructuring, we trust that the impetus behind the review will be sustained and we look forward to receiving a report of further substantial progress during our 2014 visit.

A new Integrated Emergency Response Plan – a volume of the DRDC Suffield Safety Manual – was promulgated in August 2012. A key aspect of our visit this year was our observation of a full-scale chemical emergency response exercise in Building 1. The exercise, which was based on a simulated incident in the CNSSSF in Building 1 involving the mock exposure of a worker to CWA

included the raising of the alarm, evacuation of and accounting for all scientific and administrative personnel and visitors; establishment of a security cordon around the building; activation of the incident command, control and communications system; initial treatment and decontamination of the casualty by the specialist chemical emergency response team; attendance of fire, police, ambulance and medical teams; and, evacuation of the casualty from the building to the waiting ambulance at which point the exercise was ended. Immediately following the end of the exercise, the Centre Director chaired a “post incident review” with all key exercise participants in attendance for the purpose of assessing the emergency response and identifying procedures or actions requiring change or improvement. Committee members were stationed at the site of the casualty occurrence while the Committee Executive Officer witnessed the evacuation of the building and the personnel accounting procedure before taking up a position with the incident commander. As such, we were able to view and gain a good understanding of all aspects of the response both inside and outside Building 1. We also sat in on the “post-incident review”. We were favourably impressed by what we saw and heard. Errors of omission or commission in the response were discussed in an open, professional and collegial manner, were reasonably few, and, we believe, can be easily corrected and have been identified for same by the Centre Director. However, as the exercise ended with the placement of the casualty in the CFB Suffield ambulance, we were left with questions concerning evacuation and treatment beyond that point. These led us to add to our visit a meeting with the Base Surgeon who explained the current policies and procedures for onward evacuation and treatment at the Medicine Hat Regional Hospital. We intend to follow up this discussion with a request for a meeting with the DRDC Suffield Medical Advisor and possibly Medicine Hat Regional Hospital authorities during our next visit for the purpose of developing an understanding of the readiness of local civil healthcare facilities to treat chemical or biological agent casualties from DRDC Suffield.

Also during the course of our meeting, the Base Surgeon suggested that Canadian Forces Health Services personnel posted to the medical section at CFB Suffield should receive a short course of specialized training before or upon their arrival to ensure that they are adequately prepared to deal appropriately with chemical or biological agent casualties of the type that could occur within the DRDC Suffield setting. The Committee believes CFHS authorities should consider this suggestion.

The live agent training we observed during Exercise FIRE DRAKE, we believe, was conducted in a safe and professional manner and illustrated highly effective collaboration of the RCMP, PHAC, CAF and other components of the National CBRNE Response Team and between the team and the exercise control and safety staff at the DRDC Suffield’s Counter-Terrorism Technology Centre’s Cameron training facility.

The Committee commends the initiatives that DRDC Suffield has taken in the past two years to reinforce the effectiveness of its health and safety programmes. We were particularly impressed by the highly professional approach displayed by all personnel during the chemical emergency

response exercise and expect to see the same during the emergency responses exercises that we intend to ask be included as a regular aspect of future visits. We also endorse the move to erect modular BSL III laboratories outside of but adjacent to Building. For these reasons, we believe that DRDC Suffield continues to effectively manage, at an acceptable level, the risk borne by the administrative staff working in Building 1. The Committee will continue to monitor this situation but for the time being withdraws its recommendation made in its 2012 Annual Report that administrative staff be relocated from Building 1 until such time as all laboratory functions are transferred to the proposed new laboratory complex.

Environmental Protection

We were pleased to meet DRDC Suffield's newly appointed dedicated Environmental Officer and obtain from her an overview of the Centre's environmental management system. We were pleased to learn that the Hazardous Material Management Plan published in 2011, and the review of standard operating procedures for Hazardous Waste Management and Disposal, have borne fruit. The incinerator at the Cameron training facility which was formerly leased and is now owned outright, is proving equal to the task of handling the current stream of training waste. The hitherto daunting back-log of waste has been segregated, repacked and reduced by use of the local incinerator and in the case of certain liquid laboratory waste, by an on-site thermal neutralization unit. A statement of work is being finalized to contract for the removal and disposal of the balance of the segregated back-log.

The aging biological waste incinerator was replaced in 2012 with a high efficiency pathological incinerator. Validation testing is in progress to determine if this unit can be used to destroy waste jars containing liquid laboratory waste and liquid training waste.

The project to remediate contaminated soil at selected sites on the Experimental Proving Ground has been closed as unfeasible in favour of risk management of the sites by means of fencing and access control. In view of the apparent cost of remediation, the Committee views this as a reasonable decision.

Given the success of DRDC Suffield's efforts in dealing with the hazardous waste management and disposal issue, we look forward to observing in more detail other environment protection programs and plans during future visits.

Other Observations

During past visits to NDHQ, we have always been interested to learn of the latest activities pertaining to Canada's contribution to the Global Partnership – the ten year, \$20 billion initiative aimed at addressing weapons of mass destruction (WMD) proliferation risks in the Former Soviet Union. We were impressed by the concrete threat reduction programming made possible by Canadian funding amounting to \$880 million since 2002. This year, we were told of new funding and priorities for the period 2013-18 and the shift of Canadian effort from the former Soviet Union to addressing urgent threats in the Middle East and mitigating possible future WMD risks in Africa, Asia and the Americas with an emphasis on nuclear and radiological security; biological

security; implementation of United Nations Security Council Resolution 1540 (prevention of non-state actors from acquiring nuclear, biological or chemical weapons); chemical weapons destruction; and, countering WMD knowledge proliferation. The Global Partnership Program deserves the attention and support of all Canadians.

While at DRDC Suffield and again during our call on the DRDC Corporate Office, we appreciated hearing from Centre Director, Mr Gary Geling, and from DRDC Chief Executive Officer, Dr Marc Fortin, their explanations of the major changes underway to Canada's defence science and technology direction and the impact of these changes on DRDC and DRDC Suffield. We learned that DRDC is intent on maintaining a clear line of sight between DND/CAF requirements and science and technology (S&T) activities; delivering S&T more effectively with greater efficiency and accountability; improving agility and responsiveness to the evolving threat environment; focussing DRDC activities on the unique roles of a federal S&T laboratory, i.e., investigations which are strategic, sensitive and classified; and, achieving these objectives with fewer resources. We understand that having already completed the major adjustments necessitated by the resource reductions of the current and past two years, DRDC should expect stable funding going forward.

At the DRDC Centre for Security Science, the Committee was brought up to date on DRDC leadership of the \$43.5 million Canadian Safety and Security Program which replaces and builds on the success of the former CBRNE Research and Technology Initiative, the Public Security Technical Program and the Canadian Police Research Centre. We noted that the Program's current biological and chemical threat related investments all fall appropriately within categories which align with the Canadian CBRN defence operating concept components of detection, identification and monitoring; information management; physical protection, hazard management; and medical counter-measures.

The mission of the Directorate of CBRN Defence at NDHQ has been expanded to include responsibility for the development of operational support capabilities such as construction and bulk fuel handling. Notwithstanding its broader mission, the Directorate continues to effectively discharge its responsibilities for developing joint CBRN defence capabilities to enable the armed forces to survive and operate in a CBRN environment; for enhancing joint interoperability with allies; for developing CBRN defence concepts, policy and doctrine; and, for providing specialist advice and information to all levels of command. The CBRN Defence Omnibus Project is moving steadily and smoothly toward completion having already, since 2008, delivered to units, substantial capability in the form of personal, hand-held and fixed-site CBRN detection systems, field sampling and detection kits, new protective coveralls, transportable collective protection and medical counter-measures. Active projects include robotic CBRN reconnaissance systems; real-time reporting and warning of CBRN events; a new joint general service respirator; and, vehicle and personnel decontamination systems. The Directorate works closely with Public Safety Canada on the Federal CBRNE Plan and collaborates with other government departments as required.

Training output at the Canadian Forces Firefighting and CBRN Academy (CFFCA) increased from 181 graduates from six CBRN Defence specific courses in FY 2011-12, to 217 graduates from six courses in FY 2012-13. It is projected to further increase to 234 graduates in FY 2013-14. As indicated by CFFCA and Canadian Army representatives at the CBRN Defence Workshop on 20 November 2013, this increase in output is largely attributable to an increase in demand from the Army, in turn due to a determined effort by the Army to “re-institutionalize” CBRN Defence as an important part of the Army’s general purpose operational capability following a period during which CBRN Defence considerations were set aside in favour of the requirements of operations in Afghanistan.

Maintaining an adequate complement of qualified instructors sufficient to meet this added demand remains a challenge for the Academy, as does the need to provide French language instruction. Some of this pressure will be alleviated by the “exporting” of courses, such as the Decontamination Operator Course, to units for conduct by qualified unit personnel with Academy oversight. On the positive side, it is understood that members of the CBRN Operator military occupation with in-depth knowledge and experience gained during service with the Canadian Joint Incident Response Unit (CJIRU) – CBRN are now becoming available for posting to instructor positions at the Academy.

It is important to note that only simulants are used during training at the Academy – no biological or chemical warfare agents. All required live agent training is conducted at DRDC Suffield.

The Committee was impressed by the initiative taken by the Canadian Special Operations Regiment at Petawawa to enhance its BCD capability by means of its collaboration with CJIRU-CBRN to design and execute particularly sophisticated and challenging training activities of special benefit to both units.

427 Special Operations Aviation Squadron at Petawawa provided the Committee with a thorough explanation of its BCD training programme and a frank explanation and very instructive illustration of the formidable challenges faced by air and ground crew when operating in CBRN environments. We perceived that, given the dual reporting relationship of the Squadron to both the RCAF and to Special Operations Forces Command, the correct channel of communication for BCD equipment and related matters may not be clear. For example, it seems that the Squadron is experiencing difficulty pursuing improvements to M45CF Aircrew Respirator. Similarly, the availability of newly developed chemical and biological casualty transportation system was apparently unknown to the Squadron. As such, we recommend that the appropriate SOFCOM, RCAF and Squadron authorities confer with a view to accurately defining this channel of communication issue and remediating it as required.

Consequent to its approval by Treasury Board last year, the Biological Warfare Threat Medical Counter Measures Project is making good progress. The revised scope of the project allows for

the delivery of up to six medical counter-measures systems including not only vaccines but a wider range of complementary systems as well.

During our visit to Canadian Forces Health Services Group Headquarters (CFHS Gp HQ), we were also informed of recent progress toward implementation of the quadrilateral (Canada, Australia, UK and the US) medical counter-measures development consortium including the agreement of consortium terms of reference, implementation guidance and targets of common interest to include antimicrobial resistance; diagnostics; non-traditional agents; toxin counter-measures; viral therapeutics; national reference library information sharing; and, testing and evaluation of medical countermeasures. We understand that similar progress is being made with respect to the Canadian national consortium which involves DRDC, Health Canada and the Public Health Agency of Canada.

The mandate of the CFHS Gp HQ Regulatory Affairs Section is to ensure adherence to Health Canada and DND regulations for the reporting, accounting and handling of unlicensed medical products; to advise on regulations for their use; and, to seek Canadian regulatory approval for them, where feasible. We observed that the section is proactively, energetically and fully engaged in obtaining regulatory approval under Health Canada's Extraordinary Use New Drug policy and Special Access Programme for an impressive range of biological and chemical defence-related products.

The Committee was pleased to learn that approval has been granted to establish a Quality Assurance position at the Central Medical Equipment Depot at CFB Petawawa. This position is essential to the implementation of other measures necessary to obtain Good Manufacturing Practices accreditation for that facility, an initiative we endorsed in our 2011 Annual Report. We understand that the position is now in the process of being classified in accordance with public service criteria, following which it will be staffed. We hope to hear soon of the completion of these final steps.

In its 2011 Annual Report, the Committee observed that no plan was in place to sustain beyond 2012 the operation and maintenance of the impressive Mobile Chemistry Laboratory developed and staffed by DRDC Suffield scientists and deployed in support of security for the Vancouver Olympics and the G8/20 Summits in 2010. Nor could we determine the existence of a plan for the use of the All-Hazards Triage Facility recently located at DRDC Suffield and available to support security agencies across the country. As such, we urged that a plan for their utilization and maintenance be developed. In light of the budget reductions faced by both DRDC and Public Safety Canada, this has proven difficult. We understand that, in the case of the Mobile Chemical Laboratory, a pragmatic solution has been arrived at which will sustain the minimum required maintenance of the laboratory, allow it to be utilized by scientists at DRDC Suffield, and brought up to a level of full operational readiness if requested for use and funds are provided by other agencies. With respect to the All-Hazard Triage Facility, we accept that personnel and funds are simply not available at present to sustain its operation and that consequently it must be

“mothballed” until such time as resources are available to support a viable program. We will close these recommendations.

Notwithstanding the impact of budget reductions and workforce adjustment, which has caused a certain amount of understandable disappointment and discouragement in some cases, the dedication and professionalism of all whom we met during the course of this year’s visit and verification programme were high. We continue to believe that fiscal and personnel cuts have been managed carefully and with a view to avoiding undue program disruption and minimizing adverse effects on people. We observed no signs of detrimental impacts to date on safety, environmental protection or training effectiveness.

CONCLUSIONS

Having detected no evidence to the contrary during the course of its 2013 briefing and visit activity, the Committee concludes that:

- Canada’s policy of maintaining a purely defensive biological and chemical warfare capability is fully respected by the DND and the CAF.
- The BCD research, development and training activities undertaken by the DND and the CAF are fully compliant with Canada’s obligations as a State Party to the BTWC and CWC.
- The BCD research, development and training activities undertaken by the DND and the CAF pose no apparent threat to public safety or the environment.
- There is no cooptness or duplication within the BCD program.

RECOMMENDATIONS

Pursuant to its observations made during the course of its 2013 briefing and visit activity, the Committee makes the following recommendations:

- DRDC Suffield should assess, and remediate as appropriate, the risk of toxic substances escaping the CNSSSF via floor drains or the dumbwaiter shaft and also, the risk of recirculation of fume hood exhaust on the roof of Building 1.
- Canadian Forces Health Services Group should evaluate the need for personnel posted to the medical section at CFB Suffield to receive a short course of specialized training before or upon their arrival to ensure that they are adequately prepared to deal appropriately with chemical or biological agent casualties of the type that could occur within the DRDC Suffield setting.
- In view of 427 Special Operations Aviation Squadron’s dual reporting relationship, SOFCOM, RCAF and Squadron authorities should clarify the correct channel of communication with respect to biological and chemical defence equipment and related matters.

STATUS OF COMMITTEE RECOMMENDATIONS

Please see Annex A for DND/CAF responses to Committee recommendations.

ANNEXES

A – Status of Recommendations

B – Acronyms and Abbreviations

STATUS OF COMMITTEE RECOMMENDATIONS

No.	Year	Recommendation	DND/CAF Response & BCDRC Comment	Status
1.	2011	DRDC Suffield should continue to reduce its biological, viral and toxin holdings to the minimum required for current research and that it complete as soon as possible procurement of specialized software and management tools for inventory management	<p>DND/CAF Response (March 2012): “In 2011, DG DRDC Suffield directed: the completion of a full inventory of all biological, viral holdings; minimization of all holdings to levels that are sufficient to support current and future program requirements and the destruction of surplus materials. This task is expected to be completed by 29 February 2012. The updates to the inventory management software have been received and implemented.”</p> <p>BCDRC Comment (November 2012): Good progress is being made but some work remains to be done with respect to further reductions and inventory management tools. We will continue to monitor.</p> <p>DND/CAF Response (April 2013): “DND/CF DRDC Suffield continues to annually review holdings of bacterial, viral and toxin stocks, and reduce the number of redundant stocks to minimal amounts sufficient to support current and future program requirements. The updates to the inventory management software have been implemented and improvements and progress continue to be made.”</p> <p>BCDRC Comment (December 2013): We commend the progress made to date while noting that the inventory management system has not yet been fully implemented. We will continue to monitor.</p> <p>DND/CAF Response (February 2014): “The inventory management software has been completely updated. DRDC Suffield is currently relabeling all Bio Safety Level 3 stock inventories with database-generated bar-code labels.</p>	OPEN

ANNEX A
to BCDRC 2013 Annual Report

No.	Year	Recommendation	DND/CAF Response & BCDRC Comment	Status
			<p>Concurrently, a complete inventory check of all stocks is also underway to ensure accurate holding records. The anticipated completion date for this phase is the end of April 2014.”</p>	
2.	2011	<p>DRDC Suffield should be commended for and supported in its efforts to improve waste stream management. Specifically, DRDC should accelerate funding for the replacement of the waste incinerator</p>	<p>DND/CAF Response (March 2012): “The incinerator at the Cameron Centre is on lease and being assessed to ensure it will meet the needs of DRDC Suffield. If it meets our needs, the incinerator will be purchased; if not priority will be placed on purchasing an incinerator that will meet requirements. The risk of not having a functioning incinerator would mean a direct impact on the research and training programs that are currently being run at DRDC Suffield.”</p> <p>BCDRC Comment (November 2012): We understand that the existing incinerator has now been purchased and that efforts are underway to help reduce the backlog of solid waste by means of transfers to other disposal facilities. New options for the disposal of liquid waste are now being investigated. We will continue to monitor.</p> <p>DND/CAF Response (April 2013): “DRDC Suffield has purchased the incinerator at the Cameron Centre and recently concluded a contract to segregate the backlogged waste. All backlogged waste has been segregated and is prepared for disposal either through the on-site incinerator or through a commercial company. A Statement of Work is being prepared to move all back-logged waste off-site for destruction. The current incinerator has proven capable of handling the current waste being generated by the research and training programs; however, in order to get rid of the accumulated waste from the time the incinerator was down,</p>	CLOSED

ANNEX A
to BCDRC 2013 Annual Report

No.	Year	Recommendation	DND/CAF Response & BCDRC Comment	Status
			<p>management decided the off-site destruction was more expedient.”</p> <p>BCDRC Comment (December 2013): Response accepted. Good work has been done by the Hazardous Materials Management staff to resolve this issue.</p>	
3.	2011	<p>NDHQ and DRDC should support, as requested, DRDC Suffield’s initiative to conduct a comprehensive external review of its safety and environmental stewardship programs</p>	<p>DND/CAF Response (March 2012): “DRDC Suffield has initiated a multi-phased program aimed at modernizing its safety practices. A review of our allies’ chemical safety programs and waste management processes has been completed and compared to established policies and programs. The recommendations from this process are undergoing an internal review, prior to forwarding to the DG of DRDC Suffield for approval. In addition, a comprehensive review of the planning and approval process for experimental and training activities has been completed. The result is a web-based system that will be implemented on 1 April 2012 and considers activities underway at DRDC Suffield. This system ensures that essential safety, regulatory, scientific integrity, ethical and resource requirements are identified and reviewed by line managers and safety experts before being approved. NDHQ recognizes the effort DRDC Suffield has put into its safety and environmental stewardship programs and commends them on this latest initiative.”</p> <p>BCDRC Response (November 2012): Reviews are ongoing. Safety manuals have been updated. Safety and Health Management System is being implemented. Good progress is being made. We will continue to monitor.</p> <p>DND/CAF Response (April 2013): “The internal ONTAP web-based review process has been fully implemented within the Centre and is working well. The Chemical Safety Committee</p>	OPEN

**ANNEX A
to BCDRC 2013 Annual Report**

No.	Year	Recommendation	DND/CAF Response & BCDRC Comment	Status
			<p>continues to work through the recommendations from the review committee and has started implementation of those approved by the DG. The BCDRC will be updated during their next visit to Suffield.”</p> <p>BCDRC Comment (December 2013): Notwithstanding the departure, due to restructuring, of some of the personnel involved in the original review, we trust that the impetus behind the review will be sustained and we look forward to receiving a report of further substantial progress during our 2014 visit. We will continue to monitor.</p> <p>DND/CAF Response (February 2014): “The comprehensive chemical safety review resulted in 11 recommendations. A majority of these recommendations resulted in changes to DRDC Suffield’s safety manuals and standard operating procedures. There are a few recommendations still in the review and implementation process. BCDRC will receive a detailed status update of all 11 recommendations during their 2014 visit.”</p>	

**ANNEX A
to BCDRC 2013 Annual Report**

No.	Year	Recommendation	DND/CAF Response & BCDRC Comment	Status
4.	2011	Canadian Forces Health Services Group should support the initiative of the Central Medical Equipment Depot (CMED) to introduce up-dated inventory management software and to establish a Quality Assurance staff position for the purpose of implementing pharmaceutical “good manufacturing practice” (GMP) at the Depot.	<p>DND/CAF Response (March 2012): “The updated inventory management software (O&PEN) was implemented in August 2011 when the transition from the older CAMMS software to the newer O&PEN software was effected. This portion of the recommendation has been completed. CFHSG/DHSO/OpMed/Regulatory Affairs is currently leading the effort (with support from CMED) to bring CMED to Good Manufacturing Practices (GMP) compliance, which is a regulatory requirement under the Food and Drugs Act for the activities carried out at the Depot. Reg Affairs is currently still in the first of a three-stage process for this activity, the being the staffing of a Quality Assurance position at CMED. When the position is staffed, the development of an extensive set of SOPs and facility upgrades will follow.”</p> <p>BCDRC Comment (November 2012): Response is noted. Good progress is being made. We will continue to monitor.</p> <p>DND/CAF Response (April 2013): “CMED has implemented the new inventory management software. No progress has been made on establishing a Quality Assurance position, as the Deficit Reduction Action Plan (DRAP) has effectively halted such staffing activities.”</p> <p>BCDRC Comment (December 2013): We understand that the establishment of a Quality Assurance position has been approved and that the position is now being classified. We look forward to the completion of the hiring process and further progress toward GMP certification. We will continue to monitor.</p> <p>DND/CAF Response (February 2014): “The CMED Quality Assurance position has been established and classified. Applications have been received and are currently being reviewed. Once the screening process is complete, the way forward will be determined.”</p>	OPEN

**ANNEX A
to BCDRC 2013 Annual Report**

No.	Year	Recommendation	DND/CAF Response & BCDRC Comment	Status
5.	2011	NDHQ should evaluate the necessity for the licensed small-scale synthesis facility at the Royal Military College of Canada. If the requirement remains, arrangements should be put in place for the exchange of laboratory best practices with DRDC Suffield	<p>DND/CAF Response (March 2012): “The research conducted at RMC is distinct from research conducted elsewhere. Exchange of information on best practices between RMC and DRDC Suffield is already occurring. Discussions are underway between the Chief of Military Personnel (CMP) and DRDC regarding the RMC infrastructure requirements in the area of chemical defence. The review will consider the BCDRC’s recommendations. NDHQ supports and encourages continued information exchange between these vital organizations.”</p> <p>BCDRC Comment (November 2012): We understand this issue remains active. We will continue to monitor.</p> <p>DND/CAF Response (April 2012): “There have been some additional discussions between DRDC Suffield and RMC and they have de-conflicted their activities, but little has been established in terms of ongoing information exchanges.”</p> <p>BCDRC Comment (December 2013): We understand that the RMC facility continues to operate subject to a new and more restrictive license but that there has been little or no exchange of best practices with DRDC Suffield. We will continue to keep this recommendation open pending receipt of a clear and conclusive response.</p> <p>DND/CAF Response (February 2014): “Points of contact have been established at the Royal Military College of Canada (RMCC) and DRDC Suffield. Discussions have occurred regarding the scale and safety of work at RMCC. No current issues have been identified and neither party has identified issues of concern. However, channels of communications remain open to ensure that work at RMCC remains consistent with best practice.”</p>	OPEN

ANNEX A
to BCDRC 2013 Annual Report

No.	Year	Recommendation	DND/CAF Response & BCDRC Comment	Status
6.	2011	NDHQ should consider the concerns and ideas voiced in the health services and defence research and development communities with respect to the future development and deployment of medical counter-measures	<p>DND/CAF Response (March 2012): “The Canadian Forces Health Services Group (CFHS Gp) and Defence Research and Development Canada (DRDC) support the development of a Medical CM Consortium, which, with the interdepartmental support of the Public Health Agency of Canada, is garnering international interest. This effort is in keeping with the Government of Canada’s role in the Global Health Security Initiative regarding the development of Medical Countermeasures to CBRN agents. NDHQ supports CFHS Gp and DRDC in this endeavour and continues to monitor developments.”</p> <p>BCDRC Comment (November 2012): We are encouraged by the good progress that is being made in the realm of MCM. Treasury Board (TB) approval of the BWTMCM Project represents a major step forward. We will continue to monitor.</p> <p>DND/CAF Response (April 2013): “Areas of common interest have been identified: Antimicrobial Resistance, Diagnostics, Anti-virals, and Anti-toxins. Department of National Defence (DND) and Public Health Agency of Canada (PHAC) are working together to support Quadrilateral requirements in these areas.”</p> <p>BCDRC Comment (December 2013): Work toward the establishment of both quadrilateral and Canadian MCM consortia is well underway. We will continue to monitor the issue but consider that our recommendation has been accepted and implemented and thus, for the purpose of this report, closed.</p>	CLOSED

ANNEX A
to BCDRC 2013 Annual Report

No.	Year	Recommendation	DND/CAF Response & BCDRC Comment	Status
7.	2011	NDHQ should support efforts by DRDC and DRDC Suffield to sustain the operation and maintenance of the Mobile Chemical Laboratory beyond 2012	<p>DND/CAF Response (March 2012): “Discussions are underway between DRDC and Public Safety Canada. It is expected that, at the end of the project, that DRDC Suffield will maintain the capability in a sufficient state of readiness to respond to planned events by re-assigning personnel. NDHQ recognizes the importance of the Mobile Chemical Laboratory to past support to operations and supports maintenance of this capability by DRDC Suffield as indicated.”</p> <p>BCDRC Comment (November 2012): We understand that discussions continue and hence this remains an open issue. We will continue to monitor.</p> <p>DND/CAF Comment (April 2013): “Public Safety was unable to provide the means (annual funding to cover personnel and maintenance costs) by which DRDC Suffield could support the operational readiness of the Mobile Chemical Laboratory (MCL). Our ADM indicated in 2012 that DRDC does not have a response mandate except for in support of Canadian Forces’ (sic) activities. The MCL will be maintained (minimum effort and funds) and utilized by the Chemical Biological Assessment and Protection section (CBAP) for DRDC Suffield training and research activities but it could be brought up to operational readiness through a request and associated funding from the Canadian Forces.”</p> <p>BCDRC Comment (December 2013): Response accepted.</p>	CLOSED
8.	2011	NDHQ should clarify planned use of the All Hazards Triage Facility	<p>DND/CAF Response (March 2012): “Discussions are underway between DRDC and Public Safety Canada.”</p> <p>BCDRC Comment (November 2012): We understand that discussions continue and hence this remains an open issue. We will continue to monitor.</p>	CLOSED

ANNEX A
to BCDRC 2013 Annual Report

No.	Year	Recommendation	DND/CAF Response & BCDRC Comment	Status
			<p>DND/CAF Response (April 2013): “As additional funds and personnel resources are not available to support this program, the facility will be placed into abeyance until such time as sufficient resources are available to sustain a viable program.”</p> <p>BCDRC Comment (December 2013): Response accepted.</p>	
9.	2012	<p>DRDC and CFHS Group should, as soon as possible, address the concern of the DRDC Suffield bio-hazard committee with respect to making available to defence scientists, whose work may place them at increased risk, additional vaccines and anti-toxins not currently approved for regular use in Canada.</p>	<p>DND/CAF Response (April 2013): “While the CF is not mandated to provide healthcare to DRDC Defence Scientists, certain difficult-to-procure, CF-held, chemical and biological medical counter-measures (e.g. HI6/Atropine and Diazepam auto-injectors, RSDL, Anthrax Vaccine) have been, and continue to be, provided to DRDC Suffield via a Service Level Agreement (SLA). CFHS does not stock other vaccines which may be required by DRDC Suffield; therefore, DRDC Suffield would be responsible for acquiring them.</p> <p>The advance provision of anti-toxins is not appropriate. If a Defence Scientist is exposed to a toxin, they will require hospitalization. They would not receive any substantial treatment at DRDC Suffield. They will be admitted to a civilian healthcare facility and then be the responsibility of the civilian healthcare system. That facility will seek Special Access Permit access to the appropriate antitoxin. If it is determined that the closest source of antitoxin is that held by the CF, we already have an SOP in place to address civilian requests for CF-owned, SAP-accessed unlicensed medical products.”</p> <p>BCDRC Comment (December 2013): Response accepted.</p>	CLOSED

ANNEX A
to BCDRC 2013 Annual Report

No.	Year	Recommendation	DND/CAF Response & BCDRC Comment	Status
10.	2012	DRDC Suffield should consider temporarily re-locating administrative from Building 1 until such time as all laboratory functions are transferred to the proposed new laboratory complex.	<p>DND/CAF Response (April 2013): “Capacity to move administrative staff from Building 1 is not possible for the foreseeable future. Despite the co-location of administrative staff with the laboratories, DRDC Suffield remains committed to providing the highest quality health and safety environment for their employees.”</p> <p>BCDRC Comment (December 2013): Response accepted.</p>	CLOSED
11.	2012	Commander Canadian Army should consider issuing renewed command guidance with respect to the level of BCD capability to be maintained by the Army’s formations and units.	<p>DND/CAF Response (April 2013): “Since July 2012, the CA has issued iterative guidance on the Force Generation (FG) of a Chemical, Biological, Radiological, Nuclear (CRBN) capability within the Canadian Army (CA). Specifically, the following guidance was released:</p> <ul style="list-style-type: none"> • Domestic Contingency Plan, 23 July 2012 • Non-Combatant Operations (sic) (NEO) CBRN, 10 August 2012 • NEO CBRN Decontamination Phases 1&2, 18 October 2012 • Interim Directive on Land CBRN, 23 October 2012 • NEO CBRN Decontamination Phases 3&4, 5 February 2013 • Interim Directive on CBRN Decontamination, TBI <p>While some of the guidance is acute direction in response to emergent operational demands, the two interim directives marshal the personnel, training and equipment to produce durable CA CBRN capability.”</p>	CLOSED

ANNEX A
to BCDRC 2013 Annual Report

No.	Year	Recommendation	DND/CAF Response & BCDRC Comment	Status
			<p>BCDRC Comment (December 2013): We observe a determined effort to “re-institutionalize” a strong CBRN Defence capability in the Army. Response accepted.</p>	
12.	2012	<p>NDHQ should, as soon as possible, address the concerns of the CJIRU-CBRN pertaining to the administration of post-exposure medical counter-measures to non-CF personnel in emergency situations.</p>	<p>DND/CAF Response (April 2013): “CANSOF Command Surgeon Briefing Note seeking Ministerial approval being completed in consultation with Command LegAd and will be staffed up for appropriate signatures.”</p> <p>BCDRC Comment (December 2013): We look forward to hearing that this issue has been resolved. We will continue to monitor.</p> <p>DND/CAF Response (February 2014): “A briefing note (BN) was prepared by the CANSOFCOM Command Surgeon, in conjunction with all key stakeholders, regarding the legal ramifications of CAF medical personnel administering medical counter-measures to civilians. The medical counter-measures in question specifically refer to those available only to CAF personnel through the Special Access Program. The BN has been reviewed by Comd CANSOFCOM, the CAF Surgeon General and the Chief of Military Personnel and is currently being staffed higher to the MND for approval.”</p>	OPEN
13.	2013	<p>DRDC Suffield should assess, and remediate as appropriate, the risk of toxic substances escaping the CNSSSF via floor drains or the dumbwaiter shaft and also, the risk of recirculation of fume hood exhaust on the roof of Building 1.</p>	<p>DND/CAF Response (February 2014): “Upon reviewing DRDC Suffield’s safety procedures it was found that under standard operating procedures, no toxic substances or related waste will enter the drain system in the CNSSSF. In the event of a major accidental spill from a complex chemical agent, toxic vapour or liquid has the potential to be released in the laboratory, however, a number of physical, procedural, and emergency response mechanisms are in place to mitigate any further release. A further review of additional mitigation</p>	OPEN

ANNEX A
to BCDRC 2013 Annual Report

No.	Year	Recommendation	DND/CAF Response & BCDRC Comment	Status
			<p>options is being undertaken to further reduce any risks associated with major spills. Upon reassessing DRDC Suffield’s safety procedures regarding the dumbwaiter, DRDC Suffield can confirm that the dumbwaiter is not used to move toxic chemicals and is sufficiently isolated that it does not pose a risk of toxic liquids entering the system. Upon re-examining DRDC Suffield’s safety procedures concerning the recirculation of fume hood exhaust, DRDC Suffield has identified that this does not pose a threat as each fume hood operates independently and on back-up power should the main power source fail, is regularly maintained, and is frequently under test and review to comply with safety regulations.”</p>	
14.	2013	<p>Canadian Forces Health Services Group should evaluate the need for personnel posted to the medical section at CFB Suffield to receive a short course of specialized training before or upon their arrival to ensure that they are adequately prepared to deal appropriately with chemical or biological agent casualties of the type that could occur within the DRDC Suffield setting.</p>	<p>DND/CAF Response (February 2014): “The Canadian Forces Health Services Group presently has limited training resources and capability in the medical aspects of CBRN defence. Presently this includes introductory lectures and training on military occupation/qualification level courses for all medical trades and occupations, training prepared and conducted with (sic) unit lines (notably 5 Field Ambulance, Valcartier), and access to CBR medical training at DRDC Suffield. WE have relied on courses in the UK and USA (5-6 training days) for unit Medical Officers and a variety of Canadian Forces Health Services Group staff with CBRN responsibilities. Canadian Forces Health Services (CFHS) Group Headquarters is proceeding with the development of a Patient Decontamination Course. This is intended to provide knowledge about the medical aspects of CBRN threats, practical skills in setting up CBRN medical decontamination centres and conducting decontamination, use of CBR medical countermeasures and overall treatment of CBR casualties.</p>	OPEN

**ANNEX A
to BCDRC 2013 Annual Report**

No.	Year	Recommendation	DND/CAF Response & BCDRC Comment	Status
			This would be suitable for all Canadian Armed Forces medical personnel posted to Suffield.”	
15.	2013	In view of 427 Special Operations Aviation Squadron’s dual reporting relationship, SOFCOM, RCAF and Squadron authorities should clarify the correct channel of communication with respect to BCD equipment and related matters.	DND/CAF Response (February 2014): “The RCAF acknowledges the recommendation. Extant Force Development processes are considered sufficient but improved communication and coordination is required between Air Staff, 1 Canadian Air Division (1 CAD), Canadian Special Operations Forces Command and 427 Squadron to ensure the processes are well understood and appropriately implemented at all levels. Director General Air Force Development will reappraise all concerned to raise awareness. CONSOFCOM is actively working to ensure developmental activities include the RCAF/1 CAD Technical Airworthiness authorities for the safe operation of air-crew specific BCD equipment.”	OPEN

ACRONYMS AND ABBREVIATIONS

BCD - Biological and Chemical Defence

BCDRC - Biological and Chemical Defence Review Committee

BSL - Bio-safety Level

BTWC - Biological and Toxin Weapons Convention

BWA - Biological warfare agent

BWTMCM - Biological Warfare Threat Medical Counter-measures

CA - Canadian Army

CAF - Canadian Armed Forces

CANSOF - Canadian Special Operations Forces

CBAP - Chemical Biological Assessment and Protection

CBRN - chemical, biological, radiological and nuclear

CBRNE - chemical, biological, radiological, nuclear or explosive

CFB - Canadian Forces Base

CFFCA - Canadian Forces Firefighting and CBRN Academy

CFHS Gp - Canadian Forces Health Services Group

CJIRU - Canadian Joint Incidence Response Unit

CM - counter-measures

CMED - Central Medical Equipment Depot

CMP - Chief of Military Personnel

CNSSSF - Canadian National Single Small-scale Facility

CSSP - Canadian Safety and Security Program

CWA - chemical warfare agent

ANNEX B
to BCDRC 2013 Annual Report

CWC - Chemical Weapons Convention

DAOD - Defence Administrative Order and Directive

DFAIT - Department of Foreign Affairs and International Trade

DG - Director General

DHSO – Directorate of Health Services Operations

DND - Department of National Defence

DRAP - Deficit Reduction Action Plan

DRDC - Defence Research and Development Canada

FG - Force Generation

FY - fiscal year

GMP - Good Manufacturing Practices

HQ - headquarters

HVAC - heating, ventilation and air conditioning

LegAd - Legal Advisor

MCL - Mobile Chemical Laboratory

MCM - medical countermeasures

NDHQ - National Defence Headquarters

ONTAP - On-line Turbo Approval Process

OPCW - Organization for the Prohibition of Chemical Weapons

OpMed - Operational Medicine

PHAC - Public Health Agency of Canada

RCAF - Royal Canadian Air Force

RCMP - Royal Canadian Mounted Police

ANNEX B
to BCDRC 2013 Annual Report

RMC - Royal Military College

S&T - science and technology

SAP - Special Access Program

SLA - Service Level Agreement

SOFCOM - Special Operations Forces Command

SOP - Standard Operating Procedure

TB - Treasury Board

WMD - weapons of mass destruction