

RESTORING PUBLIC CONFIDENCE

Restricting the Use of Conducted Energy Weapons in British Columbia

BRAIDWOOD COMMISSION
ON CONDUCTED ENERGY WEAPON USE

JUNE 2009

Access to Report

Please contact the following if you are interested in receiving a copy of the report or a CD-ROM of the report:

Distribution Centre-Victoria

PO Box 9455 STN PROV GOVT

Victoria, BC V8W 9V7

Fax: 250 952 4559

Email: DCVCustomerSer@gov.bc.ca

URL : <http://www.bcsolutions.gov.bc.ca/opc/>

For general inquiries, please call Service BC Call Centre

Hours of operation are 7:30 AM to 5 PM PST—Monday through Friday

In Victoria call: 250 387 6121

In Vancouver call: 604 660 2421

Elsewhere in BC call: 1 800 663 7867

Outside British Columbia: 1 604 660 2421

Email address: EnquiryBC@gov.bc.ca

Telephone Device for the Deaf (TDD)

In Vancouver call: 604 775 0303

Elsewhere in BC call: 1 800 661 8773

RESTORING PUBLIC CONFIDENCE

Restricting the Use of Conducted Energy Weapons

BRAIDWOOD COMMISSION
on Conducted Energy Weapon Use

BRITISH COLUMBIA

June 18, 2009

Library and Archives Canada Cataloguing in Publication

Restoring public confidence: Restricting the use of conducted energy weapons

Braidwood Commission of Inquiry on Conducted Energy Weapon Use (B.C.)
The Braidwood Commission of Inquiry on Conducted Energy Weapon Use.

ISBN 978-0-7726-6151-7

Commissioner: Thomas R. Braidwood, Q.C.

1. Stun guns--British Columbia--Evaluation. 2. Nonlethal weapons--British Columbia--Evaluation. 3. Police--British Columbia--Equipment and supplies. 4. Law enforcement--British Columbia. 5. Royal Canadian Mounted Police. 6. Governmental investigations--British Columbia. I. Braidwood, T. R. II. Title: Restoring public confidence: Restricting the use of conducted energy weapons.

HV7936.E7B72 2009

353.4'6309711

C2009-902644-9



Braidwood, QC, Commissions of Inquiry

980 – 1500 West Georgia Street, Vancouver, BC V6G 2Z6

TELEPHONE 604 660 1203 TOLL FREE 1 877 660 1203 | FAX 604 660 1207 TOLL FREE 1 877 660 1207

www.braidwoodinquiry.ca

June 18, 2009

The Honourable Michael de Jong
Attorney General of British Columbia
Room 234, Parliament Building
PO Box 9044 Stn Prov Govt
Victoria, BC V8W 9E2

Dear Mr. Attorney:

Braidwood Study Commission report into the use of conducted energy weapons

I am pleased to deliver to you my report and recommendations respecting the use of conducted energy weapons in British Columbia, as provided for in section 28 of the *Public Inquiry Act*, S.B.C. 2007, c. 9.

Yours very truly,

Thomas R. Braidwood, Q.C.
Commissioner

Commissioner

Thomas R. Braidwood, Q.C.

Counsel

Art Vertlieb, Q.C., Commission Counsel
Patrick McGowan, Associate Commission Counsel
Keith Hamilton, Policy Counsel
Sharon Samuels, Research Counsel
Dolores Holmes, Advisor

Staff

Avramenko, Lisa, Legal and Policy Researcher
Chan, Jennifer, Legal and Policy Researcher
Cheung, Christine, Administration Assistant
Cutler, Erin, Legal and Policy Researcher
Flannigan, Jenna, Legal and Policy Researcher
Gilbride, Bridget, Legal and Policy Researcher
McKeachie, Jessica, Legal and Policy Researcher
Morgan, Jennifer, Empirical Research Assistant
Perra, Leo, Executive Director
Ryan, Cynthia, Research Librarian and Documents Manager
Ryan, Karen, Empirical Research Manager
Shaw, Jacquelyn, Legal and Policy Researcher
Stooshnov, Cathy, Manager, Finance and Administration
Whitaker, Ian, Legal Student Researcher
Yuen, Jeffrey, Legal and Policy Researcher

Contractors

Kingdon, Scott, Webmaster
Freimond, Chris, Media communications
McEachern, Melanie, Transcription and media services
Rainaldi, Linda, Editor
Rowlands, Christine, Proofreader

TABLE OF CONTENTS

PART 1: EXECUTIVE SUMMARY AND RECOMMENDATIONS	1
A. EXECUTIVE SUMMARY.....	5
B. SUMMARY OF RECOMMENDATIONS.....	19
PART 2: THE COMMISSION OF INQUIRY	27
A. THE COMMISSION.....	31
B. PUBLIC FORUMS	36
C. RESEARCH PROGRAMS.....	40
D. THE COMMISSION'S REPORT	43
PART 3: CONDUCTED ENERGY WEAPONS	45
A. HISTORY OF CONDUCTED ENERGY WEAPONS.....	49
B. TASER® INTERNATIONAL, INC.	50
PART 4: THE REGULATORY FRAMEWORK	57
A. USE OF FORCE BY POLICE OFFICERS—THE LEGAL FRAMEWORK.....	61
B. CURRENT REGULATION OF CONDUCTED ENERGY WEAPONS	72
C. COURT DECISIONS ON CONDUCTED ENERGY WEAPON USE	83
PART 5: BC POLICE DEPARTMENTS' POLICIES ON CONDUCTED ENERGY WEAPON USE	89
A. INTRODUCTION.....	93
B. THE USE OF FORCE CONTINUUM.....	94
C. POLICIES ON USE OF CONDUCTED ENERGY WEAPONS.....	104
D. CONCLUSIONS	116
PART 6: TRAINING ON CONDUCTED ENERGY WEAPON USE	119
A. INTRODUCTION.....	123
B. TRAINING MATERIALS.....	123
C. ASPECTS OF TRAINING	125
D. CONCLUSIONS	141

TABLE OF CONTENTS

PART 7: INCIDENCE OF CONDUCTED ENERGY WEAPON USE IN BRITISH COLUMBIA.....	145
A. INTRODUCTION.....	149
B. THE INTRODUCTION OF CONDUCTED ENERGY WEAPONS.....	149
C. MUNICIPAL POLICE DEPARTMENTS	151
D. ROYAL CANADIAN MOUNTED POLICE.....	169
E. TRANSIT AUTHORITY POLICE.....	171
F. PROVINCIAL SHERIFF SERVICES	171
G. PROVINCIAL CORRECTIONS BRANCH	175
PART 8: RECENT REPORTS ON CONDUCTED ENERGY WEAPON USE.....	181
A. RECENT REPORTS ON CONDUCTED ENERGY WEAPON USE.....	185
PART 9: MEDICAL RISKS	213
A. INTRODUCTION.....	217
B. CARDIAC RISKS	219
C. RESPIRATORY RISKS	242
D. METABOLIC RISKS	245
E. MENTAL ILLNESS	246
F. SUBJECTS WITH OTHER VULNERABILITIES	264
G. RISKS ASSOCIATED WITH HOW THE WEAPON IS USED	266
H. THE IMPACT OF WEAPON USE ON INJURIES AND FATALITIES.....	272
PART 10: RECOMMENDATIONS.....	285
A. INTRODUCTION.....	289
B. GUIDING PRINCIPLES	289
C. DO WE HAVE ENOUGH INFORMATION ABOUT CONDUCTED ENERGY WEAPONS?	291
D. SHOULD BC ALLOW USE OF CONDUCTED ENERGY WEAPONS?.....	293
E. THRESHOLDS FOR USE	294
F. MULTIPLE DEPLOYMENTS	311
G. OTHER PRECAUTIONARY MEASURES.....	314
H. PROVINCIAL REGULATION	318
I. TRAINING AND RE-TRAINING	319
J. CERTIFICATION AND TESTING OF CONDUCTED ENERGY WEAPONS.....	321
K. REPORTING ON CONDUCTED ENERGY WEAPON USE.....	325
L. THE NEED FOR FURTHER RESEARCH	329
M. FUTURE REVIEW.....	332

PART 11: RCMP COMPLIANCE WITH PROVINCIAL REGULATION	335
---	-----

APPENDICES	341
------------------	-----

A. Terms of Reference	343
B. List of Submitters	345
C. Bibliography for Part 9: Medical Risks.....	349
D. Provincial Standards for Municipal Police Departments in British Columbia	359
E. British Columbia Law Enforcement Agencies: Comparisons of Use-of-Force and CEW Policies	363
F. British Columbia Law Enforcement Agencies: Comparisons of CEW Training Policies and Practices	397
G. Use of CEW by Municipal Police Agencies in BC	457
H. Use of CEW by the Sheriff Services in BC	505
I. Use of CEW by Provincial Corrections in BC	523

GLOSSARY	543
----------------	-----

LIST OF TABLES

Table 1: Delivered charge of M26 and X26 models.....	56
Table 2: Abnormal electrical characteristics of tested X26 weapons.....	79
Table 3: Municipal police departments in British Columbia	93
Table 4: Inventory of CEWs by municipal police department, by year	154
Table 5: Ratio between policing agencies' authorized strength and number of conducted energy weapons in their inventory.....	155
Table 6: Frequency of conducted energy weapon deployment	158
Table 7: Per capita CEW deployment by municipal police departments (2006).....	160
Table 8: Types of incidents resulting in conducted energy weapon deployment	161
Table 9: Subject behaviours/actions	162
Table 10: Instances of single mode of deployment.....	163
Table 11: Method of CEW use by highest level of subject resistance	166
Table 12: Number of weapons in use and number of weapon incidents, 2001-2007	173
Table 13: Severity of injuries associated with conducted energy weapon use	278
Table 14: In-custody deaths per 100,000 arrests, before and after deployment of conducted energy weapons	281

LIST OF GRAPHS

Graph 1: Increase in CEWs and CEW deployments, 1998-2007	157
Graph 2: Increase in CEW deployments for four municipal police departments.....	159

TABLE OF CONTENTS

Graph 3: Arrest-related officer injuries in Vancouver Police Department	273
Graph 4: Ratio of number of VPD officer injuries to authorized strength	274
Graph 5: WorkSafe BC injury claims by police officers	275
Graph 6: WorkSafe BC injury claims by correctional service officers	275
Graph 7: WorkSafe BC injury claims by sheriffs and bailiffs	276
Graph 8: Number of police-shooting deaths in British Columbia	280
Graph 9: Number of police-shooting deaths in British Columbia, per capita	280

LIST OF DIAGRAMS

Diagram 1: National Use of Force Framework	95
Diagram 2: Incident Management/Intervention Model	99
Diagram 3: Revised Incident Management/Intervention Model	102

Part 1

Executive Summary and Recommendations

PART 1: EXECUTIVE SUMMARY AND RECOMMENDATIONS

PART 1: EXECUTIVE SUMMARY AND RECOMMENDATIONS

A.	EXECUTIVE SUMMARY	5
	Introduction	5
	The Commission of Inquiry	5
	Conducted energy weapons.....	6
	The regulatory framework	7
	Policies on conducted energy weapon use	8
	Training on conducted energy weapon use.....	9
	Use of conducted energy weapons in British Columbia	11
	Medical risks.....	13
	Recommendations	16
B.	SUMMARY OF RECOMMENDATIONS.....	19
	Seriousness of the matter threshold	19
	Subject behaviour threshold.....	19
	Emotionally disturbed people	19
	Subject self-harm	20
	Multiple deployments.....	20
	Requesting paramedic assistance	20
	Automated external defibrillators.....	21
	Provincial regulation.....	21
	Training and re-training	21
	Certification of conducted energy weapons	22
	Periodic testing of conducted energy weapons.....	22
	Testing after a serious injury or death.....	22
	Reporting on conducted energy weapon use.....	23
	Further research.....	23
	Future review	24
	RCMP compliance with provincial regulation	24

PART 1: EXECUTIVE SUMMARY AND RECOMMENDATIONS

A. EXECUTIVE SUMMARY

Introduction

Conducted energy weapons, for the past decade, have been used widely by law enforcement agencies in British Columbia, across Canada, and internationally. They are designed to achieve control over a subject through pain compliance (when used in push-stun mode) or through neuromuscular incapacitation (when used in probe mode).

In October 2007, at the Vancouver International Airport, an officer of the Royal Canadian Mounted Police used a conducted energy weapon (CEW) against Mr. Robert Dziekanski, who died within minutes. Public reaction to this incident was immediate and intense and, at a more general level, concern was expressed about the deployment and use of conducted energy weapons by policing bodies in British Columbia. In response to this public concern, the provincial government appointed me to conduct two separate inquiries under the new *Public Inquiry Act*.

The Commission of Inquiry

I was appointed as sole Commissioner on February 15, 2008, under the *Public Inquiry Act* to conduct a study commission to inquire into and report on the use of conducted energy weapons by provincially regulated law enforcement agencies, the Sheriff Services Division and the Corrections Branch.¹ My terms of reference (set out in Appendix A) were to:

- Review the current rules, policies and procedures applicable to constables, sheriffs and correctional officers respecting their use of conducted energy weapons, including their training and re-training;

Throughout this document we have provided website references, though it must be kept in mind that they may change over time or become unavailable. They are up to date as of May 21, 2009. Wherever possible, we have provided references to the original documents.

¹ The second aspect of my mandate, to inquire into the circumstances of and relating to the death of Robert Dziekanski, will be the subject of a second report that will be published following evidentiary hearings that commenced in Vancouver, BC, on January 19, 2009.

- Review research, studies, reports and evaluations respecting the safety and effectiveness of conducted energy weapons when used in policing and law enforcement; and
- Make recommendations respecting the appropriate use of conducted energy weapons, including appropriate training and re-training.

The Commission convened for 15 days of informal, non-adversarial public forums in May and June 2008, at which 61 people made presentations. They represented a wide range of commercial, engineering, medical, mental health, law enforcement, civilian oversight, political, non-governmental, and personal interests. Contemporaneously, Commission researchers explored a variety of medical, scientific, legal, and policy issues, and conducted a detailed empirical analysis of every BC law enforcement agency's use of conducted energy weapons.²

Conducted energy weapons

The only brand of conducted energy weapon authorized for use by law enforcement agencies in British Columbia is manufactured by TASER International, Inc. According to the manufacturer, 350,000 officers in over 12,750 agencies in 45 countries have deployed the weapon in field uses approximately 547,000 times. In addition, approximately 680,000 human volunteers have been exposed to the weapon, most during police recruit training.

The newest model of the weapon, the TASER X26[®], emits 19 electrical pulses per second, each pulse lasting approximately 100 microseconds (100 millionths of a second). It has a peak output current of 3 amperes and, according to the manufacturer, 2.1 milliamps average. When used in push-stun mode, the nose of the weapon is pressed against the subject's skin. When the trigger is pressed, the electrical current jumps between two electrodes in the nose of the weapon, causing intense pain in the subject's muscles in that area. When used in probe mode, the

2 BC law enforcement agencies examined by the Commission included: 11 municipal police departments providing policing services in 12 municipalities, the RCMP (that acts as the provincial police force in the remainder of the province), the South Coast British Columbia Transportation Authority Police Service (Transit Authority Police), the provincial Sheriff Services Division, the provincial Corrections Branch (Adult Custody Division), the Stl'atl'imx Tribal Police Force, and the Kitasoo-Xaixais Public Safety Department.

weapon fires two darts with barbed tips, which are intended to imbed in the subject's skin. The electrical current, conducted from the weapon through wires attached to the darts, spreads out more and goes deeper into the body. In addition to the intense pain, it causes neuromuscular incapacitation. In both modes, each cycle of electrical current lasts five seconds.

The regulatory framework

Under Canada's *Criminal Code*, a conducted energy weapon is classified as a prohibited weapon, with the result that only law enforcement officers may possess the weapon. By contrast, the U.S. Bureau of Alcohol, Tobacco, Firearms and Explosives does not classify it as a firearm because it uses compressed nitrogen rather than gunpowder as the propellant, with the result that the weapon is unregulated and is sold on the retail market.

In Canada, conducted energy weapons have been imported and sold to law enforcement agencies without any prior regulatory approval under the federal *Hazardous Products Act*, and without any certification by the Canadian Standards Association (which would denote compliance with national and international standards for electrical safety).

In British Columbia, no provincially regulated law enforcement agency requires periodic testing of all its conducted energy weapons, or testing of a specific weapon when there has been a death or serious injury proximate to weapon use. However, in late 2008 all these agencies announced that they had agreed to withdraw from service all weapons acquired before 2006 for independent testing, following a Canadian Broadcasting Corporation-commissioned analysis of 44 weapons that concluded that four weapons had peak currents 47-58 percent higher than the values specified by the manufacturer.

In British Columbia, neither legislation nor regulation deals specifically with conducted energy weapons, although the *Police Act* empowers the Director of Police Services to make recommendations to the Minister of Public Safety and Solicitor General on the

use of force by police officers (including training), and authorizes the Lieutenant Governor in Council to make regulations on the use of force. Although the *Use of Force Regulation* contains a definition for “intermediate weapon” that includes conducted energy weapons, the Regulation does not specify which weapons (if any) are approved. Rather, the Regulation leaves it up to the director and each chief constable to approve the use of an intermediate weapon, which lacks transparency and leaves open the possibility of inconsistent application across the province.

Further, there is no provincial regulation specifying when a conducted energy weapon may be used. The *Use of Force Regulation* delegates to each police force the responsibility to develop a use-of-force model and written policy, and leaves it up to the director to approve each police force’s model, without establishing any criteria to guide the police force or the director.

Policies on conducted energy weapon use

In British Columbia, 11 municipal police departments provide policing in 12 municipalities. The remaining cities and towns, and all rural areas (comprising 70 percent of the province’s residents) are policed by the RCMP, which has contracted with the province to act as the provincial police force.

In 1999, use-of-force trainers from across Canada and the United States developed a National Use of Force Framework (NUFF). The framework is not binding on municipal police departments, although the Canadian Association of Chiefs of Police endorsed it as a framework from which law enforcement agencies could build their own use-of-force policies or standards. The RCMP developed a similar framework, called the Incident Management/Intervention Model (IM/IM). Both models divide subject behaviours into five categories—cooperative, passive resistant, active resistant, assaultive, and grievous bodily harm/death (GBH/death). Both models permit the use of intermediate weapons (including conducted energy weapons) in the face of active resistance, which they define as the subject using non-assaultive physical action, such as pulling away, pushing away, or running away, to resist. The RCMP’s Incident

Management/Intervention Model must now be read in light of its February 2009 policy amendment, which states: “The CEW must only be used in accordance with CEW training, the principles of the Incident Management/Intervention Model (IM/IM) and in response to a threat to officer or public safety as determined by a member’s assessment of the totality of the circumstances being encountered.”

The Commission undertook a detailed analysis of each law enforcement agency’s policies respecting conducted energy weapon usage, on issues including weapon designation, training, circumstances in which a weapon should not be used, pre-deployment considerations, categories of subject behaviour that justify deployment, types of deployment, multiple discharges, post-deployment considerations, reporting on weapon use, and administration. From this review I reached several conclusions:

- There is a troubling lack of consistency in the law enforcement agencies’ policies respecting conducted energy weapon use. This has occurred because of a lack of leadership at the provincial level in developing province-wide standards for all aspects of weapon use, with the result that each police agency has had to develop its own policy.
- Although the policies of all agencies, when viewed collectively, appear to identify all the issues that should be covered in policy, no one agency’s policies come close to doing so. In addition, they fail to differentiate between which matters should be addressed in policy and which matters should be assigned to training.

Training on conducted energy weapon use

The Justice Institute’s Police Academy provides recruit training for all municipal police departments and other justice-related agencies such as the Corrections Branch and the Sheriff Services Division. Until 2006 it trained all police recruits in the use of conducted energy weapons, which ensured province-wide consistency. However, in that year the Vancouver Police Department decided that it did not want all its recruits trained in conducted energy weapon use and since the VPD’s recruits accounted for approximately half of all Academy students, the Police Academy withdrew from training any police recruits in conducted energy weapon use. Responsibility for this

aspect of recruit training devolved to individual municipal police departments, regardless of size or training expertise.

Commission researchers analyzed every law enforcement agency's training materials. Ten of these agencies (seven municipal police departments and three other agencies) rely exclusively on the manufacturer's training materials—some of these rely on earlier versions, going back as far as 2004. The training issues examined include qualifications to take training, duration and content of training, circumstances in which a weapon should not be used, use of a weapon on a person with a known medical condition, pre-deployment considerations, categories of subject behaviour, multiple deployments, post-deployment considerations, "excited delirium," and voluntary exposure during training. From this review, I reached several conclusions:

- There is a troubling lack of consistency in the law enforcement agencies' training materials respecting conducted energy weapon use. Much of this is an inevitable consequence of the Police Academy's 2006 decision to withdraw from conducted energy weapon training. British Columbians would be much better served if one body (*i.e.*, the Police Academy) assumed responsibility for basic training in conducted energy weapon use, as an integral component of use-of-force training generally.
- The law enforcement agencies' training materials reveal confusion about what matters properly fall within the ambit of training and what should be dealt with as policy. Training should focus on *how*, and policy should focus on *when*.
- It is the responsibility of the provincial government to set policy on such matters as qualifications of trainers, content and duration of training and re-certification requirements, what threshold of subject behaviour must be met before deployment is appropriate, circumstances in which a weapon should never be deployed, and when multiple discharges are appropriate. It then becomes the responsibility of trainers to train in the use of these weapons, within that policy framework.
- There is an inappropriately high degree of dependence on the manufacturer's training materials, even among those agencies who profess to have developed "vendor-neutral" training materials. Law enforcement agencies should not rely on the manufacturer's materials when they encroach into policy areas or topics of medical risks that may be under dispute.

Use of conducted energy weapons in British Columbia

In 1999, the Attorney General authorized municipal police departments to use conducted energy weapons, after a six-month field study by the Victoria Police Department. Approval was based on assurances that the weapon was absolutely safe to use, the weapon had been thoroughly researched and would be used sparingly—where the subject was assaultive or combative, a threat to themselves, the police, or some other person.

By 2001, all 11 municipal police departments were using the weapon, and it was subsequently authorized for use by the RCMP (2001), Sheriff Services Division (2001), Corrections Branch (2003), and Transit Authority Police (2007).

Commission researchers examined every reported use of a conducted energy weapon by every provincially regulated law enforcement agency from the time the weapon was first authorized for use, to the end of 2007.

Municipal police departments deployed the weapon at least 1,397 times, although the actual number of deployments may be much higher (up to twice as many). The number of deployments has increased at a rate faster than the increase in the number of weapons. There were surprising variations in the frequency of deployments by individual police departments, ranging from a low of 5.2 deployments per 100,000 population, to a high of 130.7.

The weapon was most frequently used when police responded to calls concerning suicide attempt/self-injurious behaviour (19.8 percent); violence/threat of violence (17); disturbance (15.3); drug/alcohol intoxication (12.4); and emotionally disturbed persons (10.7). Subject behaviours frequently included active resistance, alcohol/drug intoxication, assaultive behaviour, and to a lesser degree, yelling and verbal aggression/threats. When the type of weapon deployment (including use in display mode only) was matched against the highest level of resistance by a subject, it was revealed that officers deployed the weapon more than 160 times when the subject was being cooperative or displaying passive resistance (neither of which justifies

deployment), 485 times for active resistance, 669 times for assaultive behaviour, and 19 times when there was a risk of grievous bodily harm or death to the police officer (when lethal force is authorized).

In two cases, the subjects died during or after an incident involving deployment of a conducted energy weapon. In 336 incidents (24 percent), the subject suffered a weapon-related injury. Although nearly all of these injuries were minor, eight subjects suffered more serious injuries, including lung collapse, loss of consciousness from falling on head while incapacitated, facial wounds, broken ankle, and probe dart imbedded in clavicle bone. In 6 percent of cases, a police officer suffered some type of injury, a quarter of which involved broken fingers, knee injuries, back injuries, or exposure to infectious disease. In one-third of cases, provincial ambulance attendants examined the subject at the scene, although that percentage varied widely (0 to 71 percent) among police departments.

RCMP officers deployed the weapon on at least 1,466 occasions, although this is almost certainly a significant undercount. The distribution of incident types was similar to municipal police departments, although cases involving alcohol or drugs were higher (82 vs. 62 percent), as were cases involving weapons (35 vs. 20 percent). Six subjects died during or after deployment of a conducted energy weapon.

Transit Authority Police deployed the weapon six times in 2007. In all cases, the subject's behaviour met the active resistance level, but in three cases the active resistance consisted of fleeing from police after being stopped for a fare check.

Sheriff Services Division officers, who are responsible for court security and escort and detention of prisoners, used the weapon 127 times between 2001 and 2007. The types of events that occasioned use of the weapon were extraction from or placement into a cell (42 percent), prisoner transfer (17), cell search (9), prisoner search (9), and "other" (24). The most commonly identified subject behaviours were active resistance, verbal aggression, assaultive, violence or threatened violence, agitation, and yelling. In 80 percent of cases, compliance was achieved through display of the weapon, without actually discharging it.

Corrections Branch officers (Adult Custody Division) are responsible for the custody of persons remanded for trial, persons sentenced to imprisonment, and persons detained by immigration authorities. Between 2003 and 2007, the weapon was deployed 149 times. In 77 percent of cases, compliance was achieved either by warning or display, without actual discharge. A weapon was used to assist in cell extraction (48 percent), cell entry (17), lock-up (11), cell extraction and escort (9), escort (7), intake (6), and hostage-taking (1). The most commonly identified subject behaviours were active resistance, smashing/damaging property, verbal aggression, assaultive, and violence or threatened violence. In 20 percent of cases, the subject was armed with a weapon.

Medical risks

Since 2003, 25 people in Canada, including eight in British Columbia, have died after a conducted energy weapon was deployed against them. According to Amnesty International, more than 300 people have died in the United States in similar circumstances.

In an attempt to understand the role, if any, that the weapon might play in such deaths, Commission researchers studied the medical literature, including controlled studies involving deployment of the weapon on animals and human volunteers. I also invited medical experts in emergency medicine, cardiology, electrophysiology, pathology, epidemiology, psychology, and psychiatry to make presentations during our public forums.

If a conducted energy weapon can cause or contribute to death, the most likely ultimate cause of death is ventricular fibrillation, in which the weapon's electrical current triggers a chaotic rhythm of the heart's two ventricles. The heart beats at 200-300 beats per minute, it cannot pump blood, and the subject will, if not defibrillated, lose consciousness within 5-10 seconds and will die within 10 minutes. From my review, I concluded that, even in the case of people with healthy hearts:

- An external electrical current can overtake the human body's internal electrical system, resulting in ventricular capture, which may lead to ventricular tachycardia and, in some cases, ventricular fibrillation.

- There is evidence that the electrical current from a conducted energy weapon is capable of triggering ventricular capture.
- Based on animal studies, I am satisfied that the greatest risk of ventricular fibrillation arises when the probes are vectored across the heart, and that the risk of ventricular fibrillation increases as the tips of the probes get closer to the wall of the heart.
- There is a short “window” during the heart’s normal beat cycle (the T-wave), when the heart is most vulnerable to an external electrical shock. However, this narrow window does not apply to rapid ventricular capture causing ventricular tachycardia, which may degenerate into ventricular fibrillation.
- Although there is often a lack of physical evidence on autopsy to determine whether arrhythmia was the cause of death, if a person dies suddenly and from no obvious cause after being subjected to a conducted energy weapon, death is almost certainly due to an arrhythmia.

The risk of ventricular fibrillation increases significantly in several circumstances—if the subject has cardiovascular disease or in thin subjects who have a smaller skin-to-heart distance. The intense pain, coupled with anxiety and stress, can cause an outpouring of adrenaline that can stimulate the heart and lead to dangerous arrhythmias. Skeletal muscle contractions can lead to acidosis, which affects the electrolyte balance, making the heart more susceptible to ventricular fibrillation. Also, an electrical current coinciding with the T-wave peak may induce fibrillation with a threshold 25 or more times lower than at other times in the heartbeat cycle. Finally, there are several risks associated with deployment against a subject who is wearing an implanted pacemaker or defibrillator.

Several researchers have raised concerns that the electrical current from a conducted energy weapon may induce spasm in the muscles of respiration (diaphragm and intercostal muscles), interfering with the subject’s ability to breathe. This could, in the case of prolonged deployment, lead to acute respiratory failure or acidosis. The body’s natural response to acidosis is to hyperventilate, which can be frustrated if the subject is lying face down, if pressure is applied to the chest or neck area, or if the officers’ attempt to restrain the subject results in the subject struggling. The weapon’s electrical current might also cause muscle damage (rhabdomyolysis), which can lead to cardiac arrest or acute renal (kidney) failure.

Based on the presentations of psychiatrists, other mental health professionals, and emergency medicine physicians, I concluded that:

- Police officers are called upon, with increasing regularity, to deal with emotionally disturbed people who display extreme behaviours, including violence, imperviousness to pain, superhuman strength and endurance, hyperthermia, sweating, and perceptual disturbances.
- Such emotionally disturbed people are often at an impaired level of consciousness; may not know who they are or where they are; may be delusional, anxious, or frightened; and may be unable to process or comply with an officer's commands.
- This cluster of behaviours is not a medical condition or a diagnosis. They are symptoms of underlying medical conditions that, in extreme cases, may constitute a medical emergency.
- The officer's challenge is not to make a medical diagnosis, but to decide how to deal with the observable behaviours, whatever the underlying cause.
- It is not helpful to blame resulting deaths on "excited delirium," since this conveniently avoids having to examine the underlying medical condition or conditions that actually caused death, let alone examining whether use of the conducted energy weapon and/or subsequent measures to physically restrain the subject contributed to those causes of death.
- The unanimous view of mental health presenters was that the best practice is to de-escalate the agitation, which can best be achieved through the application of recognized crisis intervention techniques. Conversely, the worst possible response is to aggravate or escalate the crisis, such as by deploying a conducted energy weapon and/or using force to physically restrain the subject. It is accepted that there may be some extreme circumstances, however rare, when crisis intervention techniques will not be effective in de-escalating the crisis. But even then, there are steps that officers can take to mitigate the risk of deployment.

There are other risks associated with how the weapon is deployed, such as when the subject is driving or operating machinery, or may fall from a height or fall in water and drown. In addition, I concluded that multiple deployments increase the medical risks discussed above.

Several studies have attempted to determine whether the use of conducted energy weapons reduce injuries and deaths to subjects and officers. I concluded that the

results are, to date, inconclusive—it is notoriously difficult to isolate a particular weapon’s impact on injuries and deaths, when so many variables are at play.

Recommendations

In developing my recommendations, I was guided by several principles—that the police are subject to civilian authority, that the police must be given appropriate tools to do their job, that the police should use the least force necessary to manage the risk, and that the use of force must be proportionate to the seriousness of the situation.

I was satisfied that, notwithstanding the inadequacy of the medical research conducted to date, we as a society know enough about conducted energy weapons to make important decisions relating to their use. Conducted energy weapons do have the capacity (even in healthy adult subjects) to cause heart arrhythmia, which can lead to ventricular tachycardia and/or fibrillation, which if not treated immediately, can cause death, and that risk increases in certain circumstances. However, there are ways to ameliorate those risks and there is no doubt that in the great majority of deployments, the weapon is effective. On balance, I concluded that our society is better off with these weapons in use than without them. However, my support for their use is conditional on significant changes being made in when, and the way in which, the weapon is deployed.

In the same way that proportionality dictates that the punishment must fit the crime, a fairly high “subject matter” threshold should be set for deployment of a conducted energy weapon. It should not be used to enforce municipal bylaws, provincial laws, and federal regulatory laws, but only truly criminal offences.

With respect to a “subject behaviour” threshold, I concluded that the behaviours caught in the definition of “active resistance” (the current threshold) are not egregious enough to warrant deployment of a weapon that is designed to inflict intense pain and to totally incapacitate the subject, given the medical risks, proportionality concerns, and my sense of Canadian values—it would embarrass me as a Canadian to watch a police officer deploy a conducted energy weapon against a

subject, even one under investigation for a criminal offence, for merely walking or running away from the officer. Neither was I satisfied with the RCMP's new threshold of a "threat to officer or public safety," nor with the "assaultive behaviour" threshold recommended in several recent reports. Although the definitions for "assaultive behaviour" in both use-of-force continuums can be traced back to the *Criminal Code's* language for common assault, they also justify use of the weapon when there has been only an attempted common assault, and even when no criminal offence has been committed. I concluded that the subject behaviour threshold should be met when the subject is causing bodily harm or the officer is satisfied, on reasonable grounds, that the subject's behaviour will imminently cause bodily harm. Even then, an officer should not deploy the weapon unless satisfied, on reasonable grounds, that no lesser force option would be effective, and de-escalation and/or crisis intervention techniques would not be effective. That is particularly important when dealing with an emotionally disturbed subject.

Given the increased medical risks associated with multiple or prolonged deployments of the weapon, I concluded that officers should be required to stop after the first five-second deployment and reassess the situation.

I also concluded that paramedic assistance should be requested in every medically high-risk situation, such as deployment in probe mode across the chest or for longer than five seconds, and when dealing with subjects who are emotionally disturbed, elderly, pregnant, or medically vulnerable. In addition, every officer who has a conducted energy weapon should have an automated external defibrillator readily available for use.

The provincial government should exercise its unquestioned legislative authority to set province-wide standards relating to conducted energy weapons, on issues such as approval of specific weapon models, the circumstances in which the weapon may (or must not) be used, qualifications, training, and mandatory reporting on weapon use. One agency, the Police Academy within the Justice Institute, should be responsible for

training officers of provincially regulated law enforcement agencies in the use of conducted energy weapons, and that training should emphasize the medical risks.

Every conducted energy weapon in use should be periodically tested for electrical output, as should a specific weapon when there has been a death or serious injury proximate to use of that weapon.

The Ministry of Public Safety and Solicitor General needs to strengthen the reporting requirements relating to conducted energy weapon usage, and that data needs to be regularly reviewed for the purposes of informing the development of policy and training. The ministry, and each law enforcement agency, should publish regular reports on weapon use. The ministry should also encourage other provinces and territories, and the federal government, to develop and fund a national research program for conducted energy weapons.

This Report is a starting point, not the final chapter on conducted energy weapons. I recommended that the Legislative Assembly ensure that a comprehensive review be conducted after three years, to determine the extent to which my recommendations have been implemented, to examine new information about medical risks and new models of weapons, and to make any necessary recommendations about weapon use and training.

Finally, I expressed concern that because the RCMP (which polices 70 percent of British Columbians) is regulated federally, the provincial government has very limited constitutional authority over the RCMP's internal management and administration. I concluded that, as a precondition to the province renewing its policing agreements with the RCMP in 2012, the minister require that the RCMP contractually agree to comply with the rules, policies, and procedures respecting conducted energy weapons that are applicable to provincially regulated law enforcement agencies.

B. SUMMARY OF RECOMMENDATIONS

Seriousness of the matter threshold

1. I recommend that officers of provincially regulated law enforcement agencies be authorized to deploy a conducted energy weapon only in relation to enforcement of a federal criminal law.

Subject behaviour threshold

2. I recommend that officers of provincially regulated law enforcement agencies be prohibited from deploying a conducted energy weapon unless the subject's behaviour meets one of the following thresholds:

- the subject is causing bodily harm; or
- the officer is satisfied, on reasonable grounds, that the subject's behaviour will imminently cause bodily harm.

3. I recommend that, even if the threshold set out in Recommendation 2 is met, an officer be prohibited from deploying a conducted energy weapon unless the officer is satisfied, on reasonable grounds, that:

- no lesser force option has been, or will be, effective in eliminating the risk of bodily harm; and
- de-escalation and/or crisis intervention techniques have not been or will not be effective in eliminating the risk of bodily harm.

Emotionally disturbed people

4. I recommend that the Ministry of Public Safety and Solicitor General approve a curriculum for crisis intervention training comparable to that recommended by presenters at our public forums, and require:

- that it be incorporated without delay in recruit training for officers of provincially regulated law enforcement agencies; and
- that all currently serving officers of provincially regulated law enforcement agencies satisfactorily complete the training within a time frame established by the ministry.

5. I recommend that officers of provincially regulated law enforcement agencies, when dealing with emotionally disturbed people, be required to use de-escalation and/or crisis intervention techniques before deploying a conducted energy weapon, unless they are satisfied, on reasonable grounds, that such techniques will not be effective in eliminating the risk of bodily harm.

Subject self-harm

6. I recommend that officers of provincially regulated law enforcement agencies be prohibited from deploying a conducted energy weapon in the case of subject self-harm unless:

- the subject is causing bodily harm to himself or herself; or
- the officer is satisfied, on reasonable grounds, that the subject's behaviour will imminently cause bodily harm to himself or herself.

Multiple deployments

7. I recommend that officers of provincially regulated law enforcement agencies be prohibited from discharging an electrical current from a conducted energy weapon on a subject for longer than five seconds, unless the officer is satisfied, on reasonable grounds, that:

- the five-second discharge was not effective in eliminating the risk of bodily harm; and
- a further discharge will be effective in eliminating the risk of bodily harm.

Requesting paramedic assistance

8. I recommend that paramedic assistance be requested in every medically high-risk situation, preferably before deployment of a conducted energy weapon or, if that is not feasible, then as soon as practicable thereafter. Medically high-risk situations include, but are not limited to:

- deployment in probe mode across the subject's chest;
- deployment in probe mode for longer than five seconds;

- deployment in any mode against:
 - an emotionally disturbed person;
 - an elderly person;
 - a person who the officer has reason to believe is pregnant; or
 - a person who the officer has reason to believe has a medical condition that may be worsened because of the deployment (*e.g.*, heart disease, implanted pacemaker or defibrillator, etc.).

Automated external defibrillators

9. I recommend that whenever a conducted energy weapon is assigned to an officer of a provincially regulated law enforcement agency, that the officer also have an automated external defibrillator readily available for use.

Provincial regulation

10. I recommend that the provincial government set province-wide standards relating to conducted energy weapons, including, but not necessarily limited to:

- which conducted energy weapon models are approved for use;
- the circumstances in which a conducted energy weapon may, or must not, be used;
- qualifications to begin training as an operator, instructor, or master trainer;
- the curriculum for operator, instructor, and master instructor training programs, including content, duration, pass/fail level, remedial training, and re-certification;
- mandatory reporting of each conducted energy weapon use, including what information must be reported and in what form; and
- periodic province-wide analysis of usage reports, with mechanisms to ensure that the results of such analysis inform policy development and training.

Training and re-training

11. I recommend that the Police Academy be responsible for training officers of provincially regulated law enforcement agencies in the use of conducted energy weapons, as an integral component of use-of-force training generally, and that

training be conducted in accordance with the policies established by the provincial government, taking into consideration the medical risks discussed in this Report.

12. I recommend that the province's standards relating to the curriculum for operator, instructor, and master instructor training and re-training prohibit a trainer's or trainee's exposure to the electrical current of a conducted energy weapon.

Certification of conducted energy weapons

13. I recommend that the Attorney General ask the federal minister responsible for administration of the *Hazardous Products Act*:

- to add conducted energy weapons to the schedule of restricted products under that Act; and
- to make regulations prescribing the circumstances and conditions under which such weapons may be imported into, and sold in, Canada.

Periodic testing of conducted energy weapons

14. I recommend that every conducted energy weapon used by officers of provincially regulated law enforcement agencies be periodically tested for electrical output, according to a testing protocol approved by an independent body and according to a schedule established by the Ministry of Public Safety and Solicitor General, and that the test include, but not necessarily be limited to:

- the number of pulses per second;
- the duration of each pulse; and
- the maximum current during each pulse.

Testing after a serious injury or death

15. I recommend that whenever there is a serious injury or death proximate to use of a conducted energy weapon by an officer of a provincially regulated law enforcement agency, the weapon be withdrawn from service and its electrical output be tested in accordance with, and for the matters referred to in, Recommendation 14.

Reporting on conducted energy weapon use

16. I recommend that the provincial Ministry of Public Safety and Solicitor General, without delay:

- develop a province-wide conducted energy weapon incident report form that will capture enough information to permit the type of analysis undertaken by this Commission, as reported in Part 7 of this Report;
- require that the report form be completed whenever an officer of a provincially regulated law enforcement agency deploys a conducted energy weapon, even if deployment is limited to display mode only;
- develop a province-wide electronic system for the reporting and analysis of conducted energy weapon incidents;
- require that every completed report form be forwarded without delay to the ministry, and that the data on the report form be entered into the province-wide electronic system;
- review reported incidents, at least quarterly, for the purposes of informing the development of policy and training;
- publish, at least annually, a detailed report on conducted energy weapon usage by provincially regulated law enforcement agencies; and
- require each provincially regulated law enforcement agency:
 - to implement a “sign out” policy whenever a conducted energy weapon and/or a probe cartridge is issued to an officer;
 - to designate a specific employee to download the data from every conducted energy weapon at least once every month (matching the data relating to each deployment against the related incident report), and to report any discrepancies to that employee’s supervisor;
 - to review the use of conducted energy weapons by its own officers at least quarterly, to determine compliance with policy; and
 - to report at least annually, to the responsible provincial minister, and in the case of a municipal police department to the police board, on the agency’s use of its conducted energy weapons.

Further research

17. I recommend that the Minister of Public Safety and Solicitor General encourage the minister’s federal, provincial, and territorial counterparts to develop and fund a

national research program for conducted energy weapons that will promote independent, science-based, and peer-reviewed research that attaches priority to:

- quantifying the medical risks associated with conducted energy weapon use;
- identifying the highest-risk subjects;
- identifying the highest-risk external circumstances; and
- developing recommendations for best practices, including but not limited to:
 - deployments in probe mode across the subject's chest;
 - multiple deployments; and
 - emotionally disturbed people.

Future review

18. I recommend that the *Police Act* be amended to require that a special committee of the Legislative Assembly, or an individual appointed by the Legislative Assembly, begin a comprehensive review of conducted energy weapons within three years after this Report is made public and submit to the Legislative Assembly, within one year after beginning the review, a report that includes, but is not necessarily limited to:

- the extent to which the recommendations contained in this Report have been implemented;
- new information about the medical risks associated with the use of conducted energy weapons, including new models of weapons that have become available since this Report was written; and
- recommendations relating to the circumstances in which it is appropriate to use conducted energy weapons, and to training of officers in the use of such weapons.

RCMP compliance with provincial regulation

19. I recommend that, as a precondition to the Province of British Columbia entering into new policing agreements with the RCMP in 2012, the provincial Minister of Public Safety and Solicitor General require that the RCMP (in its capacity as the provincial police force) contractually agree to comply with the rules, policies, and

procedures respecting conducted energy weapons that are applicable to provincially regulated law enforcement agencies.

PART 1: EXECUTIVE SUMMARY AND RECOMMENDATIONS

Part 2

The Commission of Inquiry

PART 2: THE COMMISSION OF INQUIRY

A.	THE COMMISSION	31
1.	Appointment of commissioner	31
2.	Terms of reference	32
3.	The commission team	34
4.	The commission's activities	35
B.	PUBLIC FORUMS	36
1.	Commercial interests	37
2.	Electrical and biomedical engineering	37
3.	Medicine	37
4.	Law enforcement	38
5.	Politicians	40
6.	Non-governmental organizations	40
7.	Concerned citizens	40
C.	RESEARCH PROGRAMS	40
1.	Medical and scientific issues	41
2.	Legal issues	41
3.	Policy analysis	42
4.	Empirical research	42
5.	Written submissions	43
D.	THE COMMISSION'S REPORT	43
1.	The purpose of this Report	43
2.	The minister's responsibilities	44

PART 2: THE COMMISSION OF INQUIRY

A. THE COMMISSION

1. Appointment of commissioner

On November 19, 2007, John Les, the provincial Minister of Public Safety and Solicitor General, announced the government's commitment to hold a commission of inquiry into the circumstances surrounding the death of Robert Dziekanski at the Vancouver International Airport on October 14, 2007, and a review of the appropriate use and policies currently employed by police in British Columbia with respect to conducted energy weapons.

The Minister stated at that time:³

This incident has British Columbians, Canadians and people all over the world seeking answers with regard to not only this human tragedy, but how the province welcomes the world to our airport. By calling a full public inquiry, we want everyone to know that all the facts will be put on the table, we will take action based on those facts and we will learn from this tragedy.

On February 15, 2008,⁴ I was appointed sole commissioner under the *Public Inquiry Act*⁵ to conduct two separate inquiries:

- a study commission to inquire into and report on the use of conducted energy weapons by constables, sheriffs, and authorized persons in British Columbia; and
- a hearing and study commission to inquire into and report on the death of Mr. Dziekanski.

When Attorney General Wally Oppal announced my appointment on February 18, he stated:⁶

Given the overlapping reviews and investigations now being conducted, combined with the jurisdictional complexity of this tragic incident, we felt it

³ See http://www2.news.gov.bc.ca/news_releases_2005-2009/2007PSSG0070-001490.htm.

⁴ See Order in Council 92, approved and ordered on February 15, 2008.

⁵ S.B.C. 2007, c. 9. The *Public Inquiry Act* can be viewed on the Commission website, at <http://www.braidwoodinquiry.ca/legislation.php>.

⁶ See http://www2.news.gov.bc.ca/news_releases_2005-2009/2008AG0006-000220-Attachment1.htm#.

prudent to adopt a two-phased approach. The federal government has indicated that it will co-operate.

This Report deals only with the study commission into the use of conducted energy weapons. I will publish, at a later date, a separate report dealing with the hearing and study commission into the death of Mr. Dziekanski at the Vancouver International Airport.

2. Terms of reference

Section 2 of the *Public Inquiry Act* states that the Lieutenant Governor in Council may establish a commission to inquire into and report on a matter that it considers to be of public interest. When it does, the Lieutenant Governor in Council must define the purposes of the commission, set the terms of reference of the inquiry, and designate the commission as a study commission, a hearing commission, or both.

The Lieutenant Governor in Council designated this Commission as a study commission.⁷ The parts of the Order in Council applicable to this Commission state as follows:

THE THOMAS R. BRAIDWOOD, Q.C., COMMISSIONS OF INQUIRY ORDER

Definitions

- 1 In this Order:
“conducted energy weapon” means a weapon or device commonly referred to as a Taser;

...
“RCMP” means the Royal Canadian Mounted Police Force continued under the *Royal Canadian Mounted Police Act* (Canada).

Establishment of two commissions

- 2 (1) A study commission, called the Thomas R. Braidwood, Q.C., Study Commission, is established under section 2 of the *Public Inquiry Act* to

⁷ The full text of the Purpose and Terms of Reference can be found in Appendix A.

inquire into and report on the use of conducted energy weapons by the following in the performance of their duties and the exercise of their powers:

- (a) constables of police forces of British Columbia, other than the RCMP;
- (b) sheriffs under the *Sheriff Act*;
- (c) authorized persons under the *Correction Act*.

....

- (3) Thomas R. Braidwood, Q.C., is the sole commissioner of each of the commissions established under this section.

Purposes of the commissions

- 3 (1) The purpose of the study commission established under section 2(1) is to make recommendations respecting the appropriate use of conducted energy weapons by constables, sheriffs and authorized persons referred to in section 2(1), in the performance of their duties and the exercise of their powers.

....

Terms of reference

- 4 (1) The terms of reference of the inquiries to be conducted by the study commission established under section 2(1) are as follows:
 - (a) to review current rules, policies and procedures applicable to constables, sheriffs and authorized persons referred to in section 2(1) in respect of their use of conducted energy weapons and their training and re-training in that use;
 - (b) to review research, studies, reports and evaluations respecting the safety and effectiveness of conducted energy weapons when used in policing and law enforcement in British Columbia and in other jurisdictions;
 - (c) to make recommendations respecting
 - (i) the appropriate use of conducted energy weapons by constables, sheriffs and authorized persons referred to in section 2(1) in the performance of their duties and the exercise of their powers, and
 - (ii) the appropriate training or re-training of those constables, sheriffs and authorized persons in that use of conducted energy weapons.
 - (d) to submit a report to the Attorney General on or before November 30, 2008.⁸

⁸ The original Terms of Reference required that I submit my final report to the Attorney General on or before June 30, 2008. However, by late April 2008 it became clear that this Report date was no longer

3. The commission team

In the weeks following my appointment, I appointed Leo Perra to act as Executive Director, and Cathy Stooshnov to act as Manager of Finance and Administration. They both brought a wealth of administrative experience—Mr. Perra as a former president of a regional college and executive director of several previous public inquiries, and Ms. Stooshnov as an administrator for numerous other public inquiries since the early 1990s. Together, they secured office space for the Commission in downtown Vancouver, hired staff, and made administrative arrangements for our public forums.

I retained as Commission Counsel Art Vertlieb, Q.C., a partner in the Vancouver law firm of Vertlieb Dosanjh. Mr. Vertlieb brought to this task his considerable experience as a senior civil, criminal, and administrative law litigator. I retained Patrick McGowan as Associate Commission Counsel. Mr. McGowan is an experienced criminal and civil law practitioner in Vancouver.

In light of the many complex scientific, medical, legal, and public policy issues arising out of the Terms of Reference, I retained Sharon Samuels as Research Counsel. She had served in a similar capacity in several other public inquiries since the mid-1990s. As well, Karen Ryan managed an extensive empirical research project relating to conducted energy weapon incident reports. I retained Keith Hamilton as Policy Counsel. Mr. Hamilton has acted as policy counsel and principal report-writer for numerous previous public inquiries. I also retained former Provincial Court judge, Dolores Holmes, to provide advice.

I retained Chris Freimond, of Chris Freimond Communications Inc., as our communications manager. He advised the Commission on matters of public and media communications, and was the key contact person for the Commission.

realistic, given the 61 witnesses scheduled to make presentations at our public forums during May and June 2008, and the time required to complete the Commission's extensive research program, to formulate my recommendations, and to draft the Commission report. Consequently, on April 28, 2008, I wrote to the Deputy Attorney General, requesting an extension of time until December 31, 2008, to file my report. On June 10, 2008, it was announced that the Lieutenant Governor in Council had granted an extension until November 30, 2008. A further extension to June 30, 2009, was granted on November 28, 2008.

A listing of the Commission staff, contractors, and consultants is included at the beginning of this Report.

I would like to express my sincere appreciation to all members of the Commission team, for the professionalism, hard work, and enthusiasm they brought to this task. While I accept sole responsibility for the ultimate recommendations, in all other respects it was a team effort, and all members of the team can be proud of their contributions.

4. The commission's activities

The Terms of Reference are exceptionally broad. They invite me to:

- review the current rules, policies, and procedures applicable to constables, sheriffs, and correctional officers respecting their use of conducted energy weapons, including their training and re-training;
- review research, studies, reports, and evaluations respecting the safety and effectiveness of conducted energy weapons when used in policing and law enforcement; and
- make recommendations respecting the appropriate use of conducted energy weapons, including appropriate training and re-training.

It was obvious to me at the outset that my primary concern, arising from the unfortunate events at the Vancouver International Airport and other conducted energy weapon incidents, was an erosion of public confidence in our law enforcement agencies.

Whatever conclusions I may reach concerning the future use of conducted energy weapons, the most important weapon in the arsenal of the police will be public support. Confidence can be furthered only by a completely open, public, objective process, where the premier experts in their relevant fields can present their views.

To address my mandate, I developed a two-pronged approach. In order to further my own understanding of the complexities of these issues, and to assist in educating the public so that they have confidence in my recommendations, Commission Counsel and Associate Commission Counsel organized a series of informal public forums, where a

wide range of people with varying interests and perspectives were invited to make presentations.

In order to pursue the many technical and policy issues in more depth, our Research Counsel brought together a team of legal, medical, empirical, and policy researchers who analyzed an enormous volume of Canadian and international material and prepared very helpful research papers, which I relied upon in preparing this Report.

I turn now to a more detailed discussion of both of these Commission activities.

B. PUBLIC FORUMS

The public forums were informal, non-adversarial sessions open to the public, held in downtown Vancouver between May 5 and June 25, 2008. In some cases, the Commission invited presenters to participate, based on their medical or scientific knowledge, their law enforcement experience, or their public policy interests. In other cases, individuals or organizations requested an opportunity to make presentations.

Presenters were invited to make their presentations uninterrupted, following which Commission Counsel, Associate Commission Counsel, and/or I asked questions for clarification.⁹

Later in this Report when I discuss policy issues, I will refer to what these presenters told me. At this point, I will only identify each presenter, and their area of interest or the organization they represent (listed alphabetically within each category).

I found every presentation to be well prepared, thoughtful, and respectful. I express my sincere appreciation to every presenter for taking the time to attend our forums and for assisting in the work of the Commission. I learned a great deal, and gained an appreciation of the complexity of these important issues.

⁹ Verbatim transcripts of presentations are available on the Commission's website at <http://www.braidwoodinquiry.ca/transcripts.php>.

1. Commercial interests

Thomas Smith, Chairman of the Board, TASER International, Inc.

Kenneth J. Stethem, Chairman and CEO, Aegis Industries.

2. Electrical and biomedical engineering

Dr. Dorin Panescu, University of Wisconsin-Madison; Madison, Wisconsin

J. Patrick Reilly, Principal Staff Engineer Supervisor; Applied Physics Laboratory,
Johns Hopkins University; Baltimore, Maryland

Dr. Pierre Savard, Professor of Biomedical Engineering; École Polytechnique de
Montréal, Montréal, Quebec

Dr. John G. Webster, Department of Biomedical Engineering; University of Wisconsin-
Madison, Madison, Wisconsin

3. Medicine

Emergency medicine

Dr. William Bozeman, emergency department physician; North Carolina

Dr. Christine Hall, emergency department physician, Victoria General Hospital and
Royal Jubilee Hospital; Victoria, BC

Dr. Jeffrey D. Ho, Department of Emergency Medicine, Hennepin County Medical
Center; University of Minnesota Medical School

Dr. Christian Sloane, emergency department physician; California

Cardiology

Dr. Michael Janusz, Clinical Professor of Surgery, University of British Columbia;
Vancouver, BC; specialist in cardiovascular and thoracic surgery

Dr. Charles Kerr, Professor of Cardiac Electrophysiology, Department of Medicine,
University of British Columbia; Vancouver, BC

Dr. Charles Swerdlow, Clinical Professor of Medicine (cardiac electrophysiology),
Cedars-Sinai Hospital; Los Angeles, California

Dr. Zian H. Tseng, Assistant Professor of Medicine, Cardiac Electrophysiology Section,
University of California; San Francisco, California

Epidemiology

Dr. Keith Chambers, former Assistant Director, Centre for Clinical Epidemiology and
Evaluation, Vancouver General Hospital; Vancouver, BC

Pathology

Dr. John Butt, former Chief Medical Examiner for provinces of Alberta and Nova
Scotia; consulting forensic pathologist; Vancouver, BC

Psychology

Dr. Michael Webster, counselling psychologist, consultant on police training; Denman Island, BC

Psychiatry

Dr. Shaohua Lu, addiction psychiatrist, clinical assistant professor, University of British Columbia; Vancouver, BC

Dr. Joseph Noone, Clinical Professor of Psychiatry, University of British Columbia; Vancouver, BC; Medical Director of Adult Program, Riverview Hospital; Coquitlam, BC

Dr. Maelor Vallance, Clinical Emeritus Professor of Psychiatry, University of British Columbia; Vancouver, BC

Mental health

Beverly Gutray, Executive Director, Canadian Mental Health Association, BC Division; Vancouver, BC

Dr. Nancy Hall, policy consultant, Canadian Mental Health Association, BC Division; Vancouver, BC

Camia Weaver, justice coordinator, Canadian Mental Health Association, BC Division; Vancouver, BC

4. Law enforcement

Police departments

Delta Police Department:

Chief Constable Jim Cessford

Cst. Jason Martens

Greater Vancouver Transportation Authority Police Service:

Deputy Chief Ken Allen

New Westminster Police Department:

Staff Sgt. Joseph Spindor, training supervisor

Port Moody Police Department:

Cst. Chris Birtsch, Traffic Section

Detective Cst. Paul Dungey, Major Crime Section

Chief Constable Brad Parker

Royal Canadian Mounted Police:

Corp. Gregg Gillis, Use of Force Subject Matter Expert, "E" Division; Vancouver, BC

Insp. Troy Lightfoot, Officer in Charge, Use of Force and Operational Programs, National Headquarters; Ottawa, Ontario

Assistant Commissioner Alastair Macintyre, Officer in Charge of
Criminal Operations, “E” Division; Vancouver, BC

Toronto Police Service:

Staff Superintendent Michael Federico

Vancouver Police Department:

Chief Constable Jim Chu

Cst. Graham Edmunds

Cst. Darren Hall, force options trainer

Cst. Tammy Hammell, conducted energy weapons coordinator, Control
Tactics Section

Sgt. Clive Milligan, in charge of use-of-force training, Control Tactics
Section

Deputy Chief Constable Bob Rich (and President, BC Association of
Municipal Chiefs of Police)

Victoria Police Department:

Cst. Mike Massine, Conducted Energy Weapon Program

Interim Chief Constable Bill Naughton

Corrections Branch

Pete Coulson, Warden, North Fraser Pretrial Centre; Port Coquitlam, BC

Sheriff Services

Supt. Paul Corrado, Strategic Security Operations, Court Services Branch, Ministry of
Attorney General, Province of British Columbia

Policing policy

Kevin Begg, Assistant Deputy Minister and Director of Police Services, Ministry of
Public Safety and Solicitor General, Province of British Columbia; Victoria, BC

Staff Sgt. Joel Johnston, Provincial Use of Force Coordinator, Ministry of Public Safety
and Solicitor General, Province of British Columbia; Victoria, BC

Civilian oversight

Paul Kennedy, Chair, Commission for Public Complaints Against the Royal Canadian
Mounted Police; Ottawa, Ontario

Michael MacDonald, Director of Strategic Policy and Research, Commission for Public
Complaints Against the Royal Canadian Mounted Police; Ottawa, Ontario

Dirk Ryneveld, Q.C., Police Complaint Commissioner; Victoria, BC

5. Politicians

Ujjal Dosanjh, P.C., Q.C., Member of Parliament for Vancouver South; former Attorney General and Premier, Province of British Columbia

6. Non-governmental organizations

Hilary Homes, Amnesty International; Ottawa, Ontario

Murray Mollard, Executive Director, BC Civil Liberties Association; Vancouver, BC

7. Concerned citizens

Zofia Cisowski, mother of Robert Dziekanski

Cathy Gallagher and Joseph Gallagher, on behalf of their mentally ill son

Walter Kosteckyj, lawyer; Vancouver, BC; counsel for Zofia Cisowski

Jay Page, computer graphics and image processing consultant

Errol Povah, political activist

Randy Puder, caregiver for family members with mental illnesses

Jude Swanson, citizen with a mental health diagnosis and a seizure disorder

Cameron Ward, lawyer; Vancouver, BC; counsel for Patti Gillman (sister of Robert Bagnall, who died after being shot with a conducted energy weapon)

C. RESEARCH PROGRAMS

Contemporaneously with the public forums, the Commission's Research Counsel developed an ambitious research program, aimed at a more in-depth analysis of the many legal, scientific, medical, and public policy issues arising out of the Terms of Reference (Appendix A).

In the scientific and medical areas, I retained Dr. Keith Chambers, the former Assistant Director at the Centre for Clinical Epidemiology and Evaluation at Vancouver General Hospital, to oversee a comprehensive literature survey and the work of the Commission's medical and scientific researchers.

The Commission's research team prepared numerous research memoranda and discussion papers, which have greatly fostered my understanding of these issues, and which were invaluable in the drafting of this Report.

1. Medical and scientific issues

In addition to preparing summaries of the international academic literature identified by Dr. Chambers,¹⁰ the Commission’s researchers also prepared discussion papers on topics such as the following:

- cardiac, respiratory, and metabolic risks;
- mental health and “excited delirium”;
- use of conducted energy weapons in push-stun and probe modes;
- repetitive deployment of conducted energy weapons;
- vulnerable groups and higher risk situations;
- post-deployment medical procedures;
- use of conducted energy weapons in clinical settings; and
- reduction in fatalities and injuries.

2. Legal issues

It is important to understand the legal and regulatory framework within which conducted energy weapons are deployed. To that end, the Commission’s legal research included an examination of the following:

- product safety and standards regulation of conducted energy weapons in the United States and Canada;
- product safety testing of the TASER M26® and TASER X26® in the United States;
- the legal status of a conducted energy weapon as a prohibited firearm and/or a prohibited weapon under the Canadian *Criminal Code*;
- classification of the TASER M26 and TASER X26 as firearms under USA law;
- review of Canadian court decisions involving the use of conducted energy weapons;
- international law implications of conducted energy weapon use;
- the Royal Canadian Mounted Police as the provincial police force in British Columbia—its roles, responsibilities, and governance; and

¹⁰ See Appendix C.

- the legal and regulatory framework for conducted energy weapon use by municipal law enforcement agencies in British Columbia.

3. Policy analysis

While a clear understanding of the scientific, medical, and legal issues is essential, the final decision about whether conducted energy weapons should be authorized for use, and if so in what circumstances, is ultimately a public policy decision. Consequently, the Commission's researchers prepared discussion papers on topics such as the following:

- comparative analysis of municipal police department policies respecting use of conducted energy weapons;
- guiding principles for the deployment of conducted energy weapons—subject behaviour, proportionality considerations, contextual factors, and preclusions; and
- cultural differences between Canada and the United States relating to the use of conducted energy weapons.

4. Empirical research

Soon after the Commission began its work, an initial review of information supplied by law enforcement agencies indicated that municipal police officers, sheriffs, and correctional officers had deployed conducted energy weapons approximately 1,500 times since they were introduced in December 1998.

In order to gain a better understanding of the circumstances in which conducted energy weapons have been used by the various policing bodies in British Columbia over that time period, I authorized a comprehensive review of every incident. This necessitated the cooperation of all law enforcement agencies, who gave the Commission's researchers access to their incident reports.¹¹

¹¹ I note in passing that while a public inquiry designated as a *hearing* commission under section 2(2)(c) of the *Public Inquiry Act* has the statutory authority under s. 22 to issue a summons requiring a person to produce for the commission information or a thing in the person's possession or control, no such authority is granted to a *study* commission (such as this one). Given the delay (and in some cases reluctance) of some law enforcement bodies to provide this Commission with information about conducted energy weapon deployments, I invite the Attorney General to consider amending the legislation to extend the summons power to study commissions.

On April 1, 2008, Commission researchers requested incident reports from the RCMP concerning the use of conducted energy weapons in British Columbia. However, by the time these reports were provided (July 31, 2008), there was insufficient time to undertake a comprehensive analysis of them. Fortunately, Mr. Paul Kennedy, Chair of the Commission for Public Complaints Against the RCMP, agreed to extract and isolate BC data from his “Quantitative Analysis of RCMP CEW Database,” contained in his June 12, 2008 report entitled *RCMP Use of the Conducted Energy Weapon: Final Report*, which he provided to the Commission.

The results of the Commission’s empirical analyses will be discussed in detail in Part 7 of this Report.

5. Written submissions

The Commission also received 38 written submissions from members of the public. Some recounted personal experiences of having a conducted energy weapon deployed against them or a family member, while others emphasized the need to use crisis intervention techniques when dealing with people with disabilities. Some submitters supported the continued use of conducted energy weapons, while an equal number wanted them banned, at least pending further research. I acknowledge with thanks those who took the time to express their views and concerns.

D. THE COMMISSION’S REPORT

1. The purpose of this Report

As stated earlier, this Report addresses only the use of conducted energy weapons as set out in the Terms of Reference. I will publish, at a later date, a separate report dealing with the hearing and study commission into the death of Mr. Dziekanski at the Vancouver International Airport.

2. The minister's responsibilities

Section 28 of the *Public Inquiry Act* directs a commission to make its final report to the minister (in this case the Attorney General of BC), setting out:

- any findings of fact made by the commission that are relevant to the commission's terms of reference, and the reasons for those findings; and
- if required by the commission's terms of reference, any recommendations of the commission.

The minister must submit the report to the Executive Council (Cabinet) at its next meeting. On receiving the report, the Executive Council may direct the minister to withhold portions of the report because of privacy rights, business interests, or the public interest. If it so directs, the minister must remove any portions to be withheld and, in the report, identify any withheld portions and, to the extent possible, summarize them.

Following its review of the report, the Executive Council must then direct the minister to lay the report (except any withheld portions) before the Legislative Assembly. The minister:

- must promptly lay the report before the Legislative Assembly if it is in session or will be in session within 10 days of receiving the direction; and
- in any other case, must promptly file the report with the Clerk of the Legislative Assembly.

Section 28(8) is clear that: "A person [which I interpret to include a commissioner] must not release a report of a commission except in accordance with this section."

Part 3

Conducted Energy Weapons

PART 3: CONDUCTED ENERGY WEAPONS

PART 3: CONDUCTED ENERGY WEAPONS

A.	HISTORY OF CONDUCTED ENERGY WEAPONS	49
1.	Origins	49
2.	Manufacturers	49
B.	TASER INTERNATIONAL, INC.	50
1.	Origins and growth of the company	50
2.	Models used by policing bodies in British Columbia	51
a.	<i>The Advanced TASER M26</i>	51
b.	<i>The TASER X26</i>	53
3.	How a TASER conducted energy weapon works.....	54

PART 3: CONDUCTED ENERGY WEAPONS

A. HISTORY OF CONDUCTED ENERGY WEAPONS

1. Origins

Conducted energy weapons or devices, which are designed to use a conducted electrical current in order to incapacitate a person or to ensure compliance through pain, have been available for more than three decades.

It is my understanding, based on the presentation of Thomas Smith (Chairman of the Board of TASER International, Inc.) at our public forums and the TASER International, Inc., website, that the first device was developed in the late 1960s by Mr. Jack Cover, an American physicist and NASA researcher. His inspiration was drawn from the 1966 Blue Ribbon Crime Commission that called for the development of non-lethal devices for use in controlling riots, which were occurring across the United States at that time. His first model, known as the Tasertron Taser,¹² was a pain compliance device, which he patented in 1974. By 1976, several police agencies were utilizing his products.

2. Manufacturers

There are several manufacturers of conducted energy weapons, including:

- TASER International, Inc., headquartered in Scottsdale, Arizona. It manufactures devices for civilian, policing, and military purposes.
- Stinger Systems, Inc., of Tampa, Florida. It manufactures a projectile stun weapon, as well as an electronic stun restraint device used for prisoner transport and an electrified riot shield.
- Aegis Industries, Inc., of Delaware. It develops intermediate-force devices, including its MK63 Trident, a close-quarters engagement device that also acts as a stun device.

¹² The name TASER is apparently an acronym for “Thomas A. Swift’s Electric Rifle,” named for a science fiction teenage inventor and adventure character: see <http://www.taser.com/legal/Pages/trademarks.aspx>.

B. TASER INTERNATIONAL, INC.

1. Origins and growth of the company

Since the only conducted energy weapons authorized for use in Canada are those manufactured by TASER International, Inc., I will limit my discussion to that firm's products. Mr. Smith told me that he and his brother Patrick bought the company, and rights to the TASER name, from Mr. Cover in 1993. Their initial goal was to use modern technology to develop a self-defence device for the civilian market, after two friends were shot and killed in a road rage incident in Scottsdale. In 1993, after switching from gunpowder to a compressed nitrogen propellant (which meant that the device was no longer classified as a firearm), the company introduced the Air Taser™ to the civilian market. It has subsequently developed a compact C2™ model that it markets primarily to women.

In 1999, the company expanded into the law enforcement market, with its development of a handgun-shaped model (the Advanced TASER M26), which could be used for incapacitation as well as pain compliance. In 2003, it introduced a smaller, lighter and more advanced X26 model that police officers could wear on their belts. Both models are also marketed to the military.

The company is currently field testing a new model. The XREP projectile is self-contained, wireless, and fires from a 12-gauge shotgun. It delivers the same neuromuscular incapacitation as the handheld TASER X26 (but for 20 seconds instead of five seconds), but can be delivered to a distance of 20 metres.

According to Mr. Smith, 350,000 officers in over 12,750 agencies in 45 countries use his company's technology today. He estimates that approximately 680,000 human volunteers have been exposed to the company's conducted energy weapons, most of them being law enforcement officers who have been exposed as part of their training. In addition, there have been approximately 547,000 field uses. He told me that in Canada, 160 agencies are using almost 2,300 M26s and almost 4,200 X26s.

2. Models used by policing bodies in British Columbia

TASER M26 and TASER X26¹³



a. The Advanced TASER M26

Introduced to the law enforcement community in 1999, the Advanced TASER M26 is a pistol-shaped weapon. It can be used in two modes:

- *Push-stun mode*—the end of the weapon is pressed against the target’s body (with an expended cartridge attached or without a cartridge attached), and a pulsed electrical current is transferred to the adjacent muscles; or
- *Probe mode*—when a cartridge is attached to the end of the weapon, it fires two metal darts or probes (using compressed nitrogen as a propellant), which imbed in the target’s skin or clothing. The probes, which have hooked tips, can penetrate up to 9 mm into the subject’s skin. If the probes do not reach the skin due to bulky clothing, the high voltage creates an arc enabling the current to enter the body. The probes are connected to the weapon by wires that conduct a pulsed electrical current from the weapon into the target’s body.

The trigger activates a five-second electrical current cycle, which can be stopped by placing the safety lever in the safe position, or can be repeated by re-pressing the trigger after the completion of the first cycle. Holding the trigger down continuously can extend a cycle.

¹³ Photos and approval for use provided by TASER International, Inc.

Eight AA nickel metal hydride or alkaline cell batteries power the M26. Depending on the battery brand used, the electrical current has a pulse rate of 15 or 20 pulses per second, with a pulse duration of 40 microseconds (40 millionths of a second) full waveform.

When the M26 is held level, the upper probe is propelled in a horizontal direction and the lower probe is propelled at an eight-degree downward angle, which means that, for every seven feet of travel, there is a one-foot spread between the probes (or, for every 2.1 metres of travel, there is a 0.3 metre spread). Four different colour-coded single-use cartridges can be installed, with different wire lengths—yellow (15 feet), silver (21 feet), green (25 feet), and orange (35 feet).

For the M26 to be effective when used in its probe mode, both probes should hit the subject.¹⁴ To assist the officer in aiming, the M26 emits a red laser beam, which marks where the upper probe will hit the target.

Every cartridge has a unique serial number. When it fires out the two probes and wires, it also disperses about 30 small discs, called Anti-Felon Identification tags, with the same serial number on it. This enables investigators to link up the user of the weapon with the person to whom the cartridge was issued.

The M26 has an LED indicator showing that the laser is on and the weapon is capable of firing, but it does not indicate whether there is sufficient battery power to fire or discharge. The weapon stores data about firings, date, and time for approximately 585 firings, which can be downloaded using an M26 dataport download kit.

The manufacturer's specifications respecting the M26's electrical output, which I will discuss in more detail later, include the following:

- Voltage:
 - Peak open circuit arcing voltage—50,000 V
 - Peak loaded voltage—5,000 V

¹⁴ However, Mr. Reilly testified that an electrical shock can be delivered across several inches of air and if one probe hits the subject and the other probe falls on wet ground, the subject may still receive a shock.

- Average voltage over duration of main phase—3,400 V
 - Average voltage over full phase—320 V
 - Average voltage over one second—1.3 V
- Current: 3.6 mA average (milliamps)
- Energy per pulse:
 - Nominal at main capacitor—1.76 joules
 - Delivered into load—0.50 joules
- Power rating:
 - Nominal at main capacitor—26 watts at 15 pulses per second
 - Nominal delivered into load—7.39 watts at 15 pulses per second

b. The TASER X26

The manufacturer introduced its X26 model, for law enforcement and military use, in 2003. It was more compact, 60 percent lighter, and designed to be carried in a holster on an officer's service belt.

The X26's specifications are similar to the M26, except for the following:

- Batteries—digital power magazine (two 3-volt lithium batteries, as used in digital cameras)
- Pulse rate—19 pulses per second
- Pulse duration—100 microseconds (100 millionths of a second)
- Peak loaded voltage—1,200 V
- Average voltage over duration of main phase—400 V
- Average voltage over full phase—350 V
- Average voltage over one second—0.76 V
- Current—2.1 mA average
- Energy per pulse:
 - Nominal at main capacitors—0.36 joules
 - Delivered into load—0.07 joules
- Power rating:
 - Nominal at main capacitors—6.84 watts
 - Delivered into load—1.33 watts

- LED display—a two-digit display of remaining digital power magazine energy percentage, burst time, warranty expiration, unit temperature, illumination status, and current time and date.
- Data storage—stores time, date, burst duration, unit temperature, and remaining digital power magazine energy percentage for approximately 1,500 firings. The data can be downloaded using a USB data interface module.
- Video and audio—available with an optional video and audio recorder that is activated when the safety switch is armed. It is capable of recording for up to 90 minutes.

3. How a TASER conducted energy weapon works

In order to understand how a conducted energy weapon works, a basic understanding of electricity is required. I am indebted to Mr. J. Patrick Reilly, from the Applied Physics Laboratory of Johns Hopkins University, for his very informative presentation during our public forums. Much of the explanation that follows is based on what he said and his PowerPoint presentation.

To begin with a question, if putting my finger into a 120-volt light socket could kill me, why could I walk away from a 50,000-volt shock from a conducted energy weapon? There are two reasons. First, the “peak open circuit arcing voltage” is rated at 50,000 volts when nothing is connected to the probes, such as when the officer is testing the weapon by creating an electrical arc between the two electrodes. When the weapon is under load (such as when imbedded in a person’s skin or clothing), the voltage is much less—7,000 volts for the M26 and 1,300 volts for the X26, according to Mr. Reilly.

Second, the duration of the conducted energy weapon pulse is short. In the case of the wiring in our homes, the electrical current is continuous. However, in a conducted energy weapon, a new electrical pulse begins 19 times every second. The actual duration of each of these pulses is much briefer—30 microseconds (30 millionths of a second) with the M26 and 80 microseconds (80 millionths of a second) with the X26.¹⁵

¹⁵ The pulse durations of 30 and 80 microseconds are taken from Mr. Reilly’s presentation. According to the manufacturer’s specifications, the pulse durations are 40 and 100 microseconds for the M26 and X26 respectively.

There is an important reason why a conducted energy weapon needs 50,000 volts. This voltage (analogous to pressure in a water hose) is required in order to create an electric arc that bridges an air gap. For example, if one of the probes is imbedded in clothing and does not touch the skin, the high voltage creates an arc between the probe and the skin, enabling the electrical current to enter the body. Similarly, although the outer layer of a person's skin (the corneum) is dry and normally a poor conductor, the high voltage breaks down the dryness and makes the skin a good conductor.

Turning now to current (analogous to the water flow rate in a hose, such as litres per minute), the manufacturer's specifications state that the M26 has a current of 3.6 milliamps (3.6 thousandths of an ampere) average, and the X26 has a current of 2.1 milliamps (2.1 thousandths of an ampere) average. Mr. Reilly, on the other hand, cites the M26 as having a peak output current of 17 amperes, and the X26 as having a peak output current of 3 amperes. He explained the difference between his numbers and the manufacturer's numbers as follows. His numbers measure the actual amperage during a pulse, whereas the manufacturer's numbers are an average over the total time period, during and between pulses. In his view, average current is irrelevant to electrostimulation.

According to Mr. Reilly, "delivered charge" is the best indicator of the potential electrostimulation. It is measured in coulombs, which is analogous to the volume of water delivered by a hose during a set period of time. The significant point is that both the M26 and the X26 have an almost identical "delivered charge" for each pulse—approximately 100 micro-coulombs (or 100 millionths of a coulomb). This is so because of the differing currents and pulse durations of the two models, as shown in Table 1.

Table 1: Delivered charge of M26 and X26 models

	M26	X26
Current	17 amperes per pulse	3 amperes per pulse
Pulse duration	30 microseconds	80 microseconds

To give a sense of what effect 100 micro-coulombs of delivered charge would have on a person, Mr. Reilly conducted laboratory experiments with human subjects, who were subjected to brief high-voltage pulses on their forearms. Subjects reported pain on average at 0.5 micro-coulombs, and intolerable pain at 1.0 micro-coulombs. This is to be contrasted to the delivered charge of 100 micro-coulombs from each pulse of a conducted energy weapon, which delivers 95 pulses over a five-second period.

The purpose of the electrical current is different, depending on the mode used:

- *Push-stun mode*—if the trigger is pulled when the end of the conducted energy weapon is pressed against the person’s skin (*e.g.*, arm). The electrodes are close together, which means that the electrical current is localized to the muscles in that area. In that case it serves a pain compliance purpose, to persuade the person to let go of something, or to otherwise comply in order to avoid further shocks.
- *Probe mode*—when the probes are deployed they are normally imbedded in the person farther apart than the electrodes are in the push-stun mode. In that case, the electrical current spreads out more and goes deeper into the body, engaging more and more excited tissue. In addition to the same pain experienced in the push-stun mode, the electrical current now interferes with the person’s neuromuscular system. The person typically becomes incapacitated, and falls to the ground with no ability to put his or her hands out to break the fall.

When the five-second cycle is over, the pain and/or incapacitation is over, and the person’s normal strength returns immediately.

Part 4

The Regulatory Framework

PART 4: THE REGULATORY FRAMEWORK

A.	USE OF FORCE BY POLICE OFFICERS—THE LEGAL FRAMEWORK.....	61
1.	Civilian governance of the police	61
2.	A police officer’s authority to use reasonable force.....	62
a.	<i>The Criminal Code</i>	62
b.	<i>Canada’s commitment to international treaties and conventions</i>	64
3.	British Columbia’s approach to establishing use-of-force standards	69
a.	<i>Firearms</i>	70
b.	<i>Intermediate weapons</i>	70
c.	<i>Use of force generally</i>	70
B.	CURRENT REGULATION OF CONDUCTED ENERGY WEAPONS.....	72
1.	Federal regulation	72
a.	<i>Under the Criminal Code</i>	72
b.	<i>As an electrical device</i>	74
2.	Provincial regulation	81
3.	Regulation in the United States	83
C.	COURT DECISIONS ON CONDUCTED ENERGY WEAPON USE	83
1.	Criminal charges against police officers	83
a.	<i>Officer did not use excessive force</i>	84
b.	<i>Officer did not have reasonable grounds to make the arrest</i>	85
2.	Police officer’s use of excessive force	86
3.	Conclusions	88

PART 4: THE REGULATORY FRAMEWORK

A. USE OF FORCE BY POLICE OFFICERS—THE LEGAL FRAMEWORK

1. Civilian governance of the police

Important principles form the basis of any discussion about a police officer's use of force. In his 1994 *Policing in British Columbia* report,¹⁶ then-Justice Wally Oppal stated:

Thus in a system of responsible government, the police are ultimately accountable to civilian authority. This fundamental tenet of a liberal democracy distinguishes Canada from totalitarian or dictatorial states in which the police are either accountable only to the executive branch or, in extreme cases, to no other authority at all.

This accountability has, in my view, two aspects. First, there is an after-the-fact accountability, through which police management must answer for how a police force is operated; and individual police officers must answer for their own conduct through internal disciplinary or court proceedings.

Second, there is a proactive accountability, through which the legislative and executive branches of government set standards of practice governing how police officers will carry out their duties. The mandate given to this Commission is an example of proactive accountability. My recommendations respecting the use of conducted energy weapons will, if accepted by the legislative and/or executive branches of government, impose new standards governing future police conduct.

While police officers have a legal duty to carry out their tasks in accordance with such standards, there is an equally onerous duty on civilian authority to set such standards in the first instance. Ignoring this responsibility, or delegating it to the police would be an abdication of a fundamental element of our liberal democratic system; we do so at our peril.

It is with this understanding that I have approached my work as Commissioner.

¹⁶ *Closing the Gap—Policing and the Community*, Volume 1, p. B-3.

2. A police officer's authority to use reasonable force

a. *The Criminal Code*

As a society, Canadians have entrusted their police officers with exceptional powers, including the power to search private property, the power to arrest (sometimes without a warrant), and the power to use force. These powers are all qualified, with elaborate checks and balances that Parliament and the courts have developed over the years to safeguard against abuses.

i. General rule

A police officer's authority to use reasonable force is dealt with in several sections of the *Criminal Code*.¹⁷ Section 25(1)(b) sets out the basic principle:

Every person who is required or authorized by law to do anything in the administration or enforcement of the law ... as a peace officer or public officer, ... is, if he acts on reasonable grounds, justified in doing what he is required or authorized to do and in using as much force as is necessary for that purpose.

If a police officer uses excessive force, then s. 26 applies. It states:

Every one who is authorized by law to use force is criminally responsible for any excess thereof according to the nature and quality of the act that constitutes the excess.

The *Criminal Code* has three special provisions respecting the use of force that is intended or is likely to cause death or grievous bodily harm, which I will mention briefly.

ii. Protection from death or grievous bodily harm

Section 25(3) states that a person is not justified in using force that is intended or is likely to cause death or grievous bodily harm, unless the person believes on reasonable grounds that it is necessary for the self-preservation of the person or the preservation of anyone under that person's protection from death or grievous bodily harm.

¹⁷ R.S. 1985, c. C-46, as amended. See <http://laws.justice.gc.ca/en/showtdm/cs/C-46?noCookie>.

iii. Taking flight to avoid arrest

Section 25(4) states that a police officer is justified in using force that is intended or is likely to cause death or grievous bodily harm to a person to be arrested if five conditions are met:

1. The officer is proceeding lawfully to arrest the person, with or without warrant;
2. The offence for which the person is to be arrested is an offence for which that person may be arrested without warrant;
3. The person to be arrested takes flight to avoid arrest;
4. The police officer believes on reasonable grounds that force that is intended or is likely to cause death or grievous bodily harm is necessary for the purpose of protecting the officer or any other person from imminent or future death or grievous bodily harm; and
5. The flight cannot be prevented by reasonable means in a less violent manner.

iv. Escaping inmate

Section 25(5) states that a police officer is justified in using force that is intended or is likely to cause death or grievous bodily harm against an inmate who is escaping from a penitentiary, if two conditions are met:

1. The officer believes on reasonable grounds that any of the inmates of the penitentiary poses a threat of death or grievous bodily harm to the officer or any other person; and
2. The escape cannot be prevented by reasonable means in a less violent manner.

In 1981 the BC Court of Appeal was required to interpret the phrase “grievous bodily harm.”¹⁸ The case involved an RCMP officer who had been convicted by a jury of assault causing bodily harm for striking a detainee with a nightstick as the detainee was exiting a police cruiser and kicking the detainee after he fell to the ground.

Although there was a dispute about the actions of the officer and the detainee, the detainee suffered a laceration on his forehead, a large bruise to his left cheek, and a fracture of his left cheekbone.

18 *R. v. Canada (Royal Canadian Mounted Police)* (1981), 60 C.C.C. (2d) 211.

Relying on two earlier court authorities, the Court of Appeal ruled that “grievous bodily harm” does not mean *any* hurt or pain, but is limited to “serious hurt or pain.”¹⁹ Later in this Report I will discuss the implications of this interpretation. For now, it is enough to note that if one were to conclude that a conducted energy weapon is likely to cause “serious hurt or pain,” then s. 25(3) of the *Criminal Code* would justify a police officer’s use of the weapon only if the officer believes on reasonable grounds that it is necessary for the officer’s self-preservation or the preservation of anyone under the officer’s protection from death or serious hurt or pain.

b. Canada’s commitment to international treaties and conventions

During our public forums, Hilary Homes made a presentation on behalf of Amnesty International Canada, in which she suggested that police use of conducted energy weapons might violate Canada’s international commitments. She stated:²⁰

Increasingly, the Taser appears to have been deployed simply too often and too soon. Amnesty International believes that using powerful electroshock weapons against those already restrained; disturbed, intoxicated, but non-dangerous individuals; unruly children; and people who are non-compliant but who do not pose a probable threat of serious injury to themselves or others, is an excessive use of force which may in some circumstances also constitute torture or other cruel, inhuman or degrading treatment. [underlining added]

i. Torture

On June 24, 1987, Canada ratified the United Nations *Convention against Torture and other Cruel, Inhuman or Degrading Treatment or Punishment*.²¹ Article 2(1) imposes a duty on each State party to “take effective legislative, administrative, judicial or other measures to prevent acts of torture in any territory under its jurisdiction.” The duty to prevent torture is absolute—Article 2(2) adds that “No exceptional circumstances whatsoever ... may be invoked as a justification for torture.”

¹⁹ *Ibid*, para. 18. The court authorities relied upon were *Director of Public Prosecutions v. Smith* (1960), 44 Cr. App. R. 261, and *The Queen v. Archibald* (1898), 4 C.C.C. 159.

²⁰ Transcript, May 15, 2008, pp. 25-26.

²¹ *Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment*, 10 December 1984, 1465 U.N.T.S. p. 85 (entered into force 26 June 1987), available at http://www.unhchr.ch/html/menu3/b/h_cat39.htm.

Under Article 11, Canada also has a duty to prevent torture by systematically reviewing its interrogation rules, instructions, methods, and practices, as well as arrangements for the custody and treatment of people subjected to arrest, detention, or imprisonment.

Article 1 of the Convention defines “torture” as meaning

any act by which severe pain or suffering, whether physical or mental, is intentionally inflicted on a person for such purposes as obtaining from him or a third person information or a confession, punishing him for an act he or a third person has committed or is suspected of having committed, or intimidating or coercing him or a third person, or for any reason based on discrimination of any kind, when such pain or suffering is inflicted by or at the instigation of or with the consent or acquiescence of a public official or other person acting in an official capacity. It does not include pain or suffering arising only from, inherent in or incidental to lawful sanctions.

From my reading of this definition, several elements must be established for an act to amount to torture:

- Severe physical or mental pain or suffering is intentionally inflicted on the subject;
- The pain or suffering is inflicted for any of the following purposes:
 - obtaining from the subject or a third person information or a confession;
 - punishing the subject for an act the subject or a third person has committed or is suspected of having committed;
 - intimidating or coercing the subject or a third person; or
 - for any reason based on discrimination of any kind;
- The pain or suffering is inflicted by or at the instigation of or with the consent or acquiescence of a public official or other person acting in an official capacity; and
- The pain or suffering does not arise only from, or is not inherent in or incidental to lawful sanctions.

On February 19, 2008, the United Nations Committee Against Torture, an expert panel established under Article 17 of the Convention, published a report²² that included the committee's concern about Portugal's use of conducted energy weapons:

Use of "Taser X26" weapons

The Committee is deeply concerned about the recent purchase by the State party of electric "Taser X26" weapons for distribution to the Lisbon Metropolitan Command, the Direct Action Corps, the Special Operations Group and the Personal Security Corps. The Committee is concerned that the use of these weapons causes severe pain constituting a form of torture, and that in some cases it may even cause death, as recent developments have shown (Articles 1 and 16).

The State party should consider relinquishing the use of electric "Taser X26" weapons, the impact of which on the physical and mental state of targeted persons would appear to violate Articles 1 and 16 of the Convention.

From my examination of this issue, I have reached several conclusions. First, I am satisfied that conducted energy weapons inflict "severe pain or suffering, whether physical or mental," within the meaning of Article 1 of the Convention. While the Convention does not define "severe," I place considerable reliance on Mr. Reilly's laboratory experiment in which human subjects experienced intolerable pain at approximately one micro-coulomb of delivered charge, and on his evidence that the M26 and X26 weapons produce 100 micro-coulombs of delivered charge. Even if "intolerable" pain does not amount to "severe" pain, surely 100 times as much delivered charge must reach or exceed the "severe" pain threshold.

Second, for an act to constitute torture, it must be inflicted for one of the purposes specified in the definition, such as obtaining a confession, punishment, intimidation, or discrimination. Based on what I have been told about the use of conducted energy weapons in Canada, I am not satisfied that they are, in the normal course of events, used for any of these purposes. They are typically used to facilitate an arrest, to

22 U.N. Committee against Torture, Consideration of Reports Submitted by States Parties Under Article 19 of the Convention: Conclusions and Recommendations of the Committee Against Torture: Portugal, UNOHCHROR, 39th Sess., UN Doc. CAT/C/PRT/CO/4, p. 5, available at <http://www.unhcr.org/refworld/publisher,CAT,,PRT,4804a62e2,0.html>.

disarm a person, or to prevent a person from harming themselves, a police officer, or others. Having said that, it is conceivable that an officer could improperly use a conducted energy weapon for one of these specified purposes. In that case, careful consideration would have to be given to whether the officer's conduct violated the Convention.

Consequently, I am not satisfied that the normal use of conducted energy weapons constitutes torture within the meaning of the United Nations *Convention against Torture and other Cruel, Inhuman or Degrading Treatment or Punishment*. While I recognize the possibility that such weapons could be used for such improper purposes, I do not consider it necessary to make recommendations against the use of conducted energy weapons for obtaining confessions or for punishment, as there is no evidence of such abuse in British Columbia, nor is any such abuse suspected in the future. In any event, torture constitutes an indictable offence under s. 269.1 of the *Criminal Code*, which tracks very closely the language of the United Nations Convention.

ii. Other cruel, inhuman, or degrading treatment or punishment

The same United Nations Convention imposes a comparable duty on State parties to prevent other cruel, inhuman, or degrading treatment. Article 16(1) states in part:

Each State Party shall undertake to prevent in any territory under its jurisdiction other acts of cruel, inhuman or degrading treatment or punishment which do not amount to torture as defined in Article 1, when such acts are committed by or at the instigation of or with the consent or acquiescence of a public official or other person acting in an official capacity.

Article 11 is also made applicable, imposing a duty on all State parties to keep under systematic review their interrogation rules, instructions, methods and practices, as well as arrangements for the custody and treatment of people subjected to arrest, detention, or imprisonment, with a view to preventing other cruel, inhuman, or degrading treatment or punishment.

Although the Convention does not define “cruel, inhuman or degrading” treatment or punishment, several international courts or tribunals have done so. Such rulings are not binding on Canada, but may serve as evidence of customary international law:

- The European Court of Human Rights ruled that a minimum level of severity is required for an action to constitute cruel, inhuman, or degrading treatment, which depends on the duration of treatment, the physical or mental effects of the treatment, and in some cases the sex, age, and state of health of the victim.²³
- The International Criminal Tribunal for the former Yugoslavia defined cruel and inhuman treatment as that which “causes serious mental or physical suffering and constitutes a serious attack on human dignity,” especially where it has been done deliberately.²⁴
- The European Court of Human Rights ruled that hooding, loud music, sleep deprivation, food and drink deprivation, and stress positions can constitute cruel, inhuman, or degrading treatment.²⁵

These rulings indicate that a certain severity of mental or physical pain or suffering is required, and that a variety of factors should be considered, including age, sex, state of health, the duration of the treatment, and its physical or mental effects on the person.

From my examination of this issue, I draw several conclusions. First, given the wide range of factors that must be taken into account in deciding whether specific treatment amounts to cruel, inhuman or degrading treatment, I am not prepared to say that the normal use of conducted energy weapons meets that threshold. Each case would have to be decided, based on the specific facts placed before the trier of fact.

Second, some international tribunals have identified particular groups in society (*e.g.*, children, the elderly, and those who are medically fragile) as being more vulnerable, which suggests to me that using conducted energy weapons against them increases the risk that such use may constitute cruel, inhuman, or degrading treatment or punishment.

Third, given the proliferation of conducted energy weapons around the world, and their increasing popularity among law enforcement bodies, it would be difficult to

²³ *Ireland v. U.K.*, European Court of Human Rights (1978).

²⁴ *Prosecutor v. Delalic*, International Criminal Tribunal for the former Yugoslavia IT-96-21-T (1998).

²⁵ *Ireland v. U.K.*, European Court of Human Rights (1978).

sustain an argument that the use of such weapons violates customary international law. To put it another way, the open use of conducted energy weapons by these States indicates their subjective belief that such use does not constitute cruel, inhuman, or degrading treatment.

3. British Columbia's approach to establishing use-of-force standards

Section 39(1) of the *Police Act*²⁶ states that the Director of Police Services is responsible for superintending policing and law enforcement functions in British Columbia. One of the director's statutory functions is to make recommendations to the minister on "the use of force by officers or classes of officers, including, without limitation, their training and retraining in the use of force" (s. 40(1)(e)(ii)).

In addition, s. 74(2)(t) of the Act authorizes the Lieutenant Governor in Council to make regulations:

- (t) respecting the use of force by a class of officers in the performance of their duties, including, without limitation,
 - (i) the training or retraining in the use of physical force
 - (A) in emergency response situations, pursuits or forcible entries, and
 - (B) as a means of restraining an individual, and
 - (ii) the training or retraining in the use of
 - (A) firearms, ammunition, batons, capsicum spray, physical restraint devices or other weapons and equipment,
 - (B) police dogs, horses and other animals, and
 - (C) motor vehicles when in pursuit or in emergency response situations.

Pursuant to that statutory authority, the Lieutenant Governor in Council passed the *Use of Force Regulation*.²⁷ There are three aspects of the Regulation on which I will comment.

²⁶ R.S.B.C. 1996, c. 367, as amended.

²⁷ B.C. Reg. 203/98. See http://www.qp.gov.bc.ca/statreg/reg/P/Police/203_98.htm.

a. Firearms

The Regulation has detailed rules about the types of firearms and ammunition that are authorized for use, maintenance and inspection of firearms, investigations to be conducted after the in-service discharge of a firearm, and the surrender of firearms (s. 3-8). Each member of a police force who is authorized to carry and use a firearm must complete a training course approved by the chief constable and qualify on the firearm, and must re-qualify on the firearm at least once annually (s. 10). With respect to use of a firearm, s. 5 states:

A member of a police force who is authorized to use a firearm under section 3, may discharge that firearm if it is reasonable and necessary to do so and in accordance with the protections and authorizations provided by section 25 of the *Criminal Code* (Canada).

b. Intermediate weapons

The Regulation defines an “intermediate weapon” as any weapon *other than*:

- a firearm; or
- a weapon that when used in its ordinary and intended manner is as likely to cause serious bodily harm or death to a person as a firearm.

It *does* include a firearm used with ammunition designed to be discharged at a muzzle velocity not exceeding 152.4 metres per second.

Section 9 then provides that a member of a police force may carry and use an intermediate weapon if two conditions are met:

- Use of the intermediate weapon has been approved by the director and a chief constable; and
- The member has completed a training course approved by the chief constable and has been qualified or re-qualified on its use as specified by the police force.

c. Use of force generally

Section 11 of the Regulation states:

Use-of-force policy

11. Each police force must develop or adopt a use of force model approved by the director and develop a written use of force policy that includes at least the following force options:
- (a) officer presence;
 - (b) communication;
 - (c) physical control;
 - (d) intermediate weapons;
 - (e) lethal force.

Section 10(3) of the Regulation requires that each member of a police force complete and qualify on a training course approved by the chief constable on the use-of-force model and techniques, and must thereafter re-qualify in the use-of-force techniques within a period specified by the police force.

The director is also required, under s. 2.1 of the Regulation:

- to appoint a use of force coordinator to coordinate development of use-of-force policy under section 11; and
- to chair a use-of-force advisory committee, including representatives from police forces, which must meet at least twice each year and may make recommendations respecting use-of-force policy.

From my examination of this issue, I have reached two conclusions. First, the Lieutenant Governor in Council has broad powers to establish province-wide policies respecting all aspects of use of force applicable to municipal police forces.²⁸

Second, Lieutenant Governor in Council has established a province-wide policy in relation to firearms and ammunition, but has not done so in relation to intermediate weapons or a general use-of-force policy.

²⁸ In his presentation during our public forums, the Director of Police Services told me that, at least with respect to the use of conducted energy weapons, his authority under s. 40 of the Act is limited to making recommendations to police departments. He is currently seeking amendments “which will give us more definitive power to actually, rather than recommend, definitively set the standard”: Transcript, May 7, 2008, p. 57. While it is true that under s. 40 the director’s authority is limited to making recommendations to the minister on the use of force, that provision must be read in conjunction with s. 74, which authorizes the Lieutenant Governor in Council to make regulations respecting the use of force by a class of officers. In my view, the Lieutenant Governor in Council could, by regulation, set province-wide standards respecting all aspects of the use of force by police officers, including standards respecting the use of conducted energy weapons, relying, of course, on the director’s recommendations.

With respect to intermediate weapons, the Regulation does not specify the particular weapons that are approved, but leaves it up to the director and a chief constable to approve a weapon. This policy lacks transparency and leaves open the possibility of inconsistent application across the province.

With respect to the use-of-force policy generally, the Regulation delegates to each police force the development of a use-of-force model and written use-of-force policy. Although each police force's policy must include at least five specified force options, the Regulation gives no guidance respecting the substantive content for each option. While the Regulation requires that the director approve each police force's use-of-force model, it establishes no criteria to guide the police force and the director, and leaves open the possibility of wide variations in models among the police forces.

The use of force (of which the use of conducted energy weapons is a key aspect) is a fundamentally important element of policing. Of all police powers, it is the most extraordinary, and cries out for consistency across the province. More than that, civilian governance of policing means that use-of-force standards must be established by the legislative and/or executive branches of government, not the police departments themselves. While it would be appropriate to include the law enforcement community and other key stakeholders in discussions leading to the development of policy, the ultimate decisions must rest with civilian authority.

B. CURRENT REGULATION OF CONDUCTED ENERGY WEAPONS

1. Federal regulation

a. Under the Criminal Code

For those searching for cultural differences between Canada and the United States, nothing could be more striking than the two countries' extraordinarily different approaches to the regulation of conducted energy weapons.

In the United States, TASER International, Inc., produces a civilian model of its conducted energy weapon (the C2), which it advertises on its website and sells through retailers, such as outfitters, sporting goods and outdoor recreation stores, and a national chain of travel centres located along interstate highways.

In Canada, however, a conducted energy weapon is a prohibited weapon under the *Criminal Code*. It may also be a prohibited firearm. I will briefly discuss both.

i. Prohibited weapon

Under s. 84(1) of the *Criminal Code*, a “prohibited weapon” is defined as meaning (in addition to switchblade knives) “any weapon, other than a firearm, that is prescribed to be a prohibited weapon.” On December 1, 1998, a regulation was passed²⁹ stating in s. 4 that weapons listed in Part 3 of the schedule were prohibited weapons. Part 3 of the schedule included “Former Prohibited Weapons Order, No. 3,” which in turn listed as a prohibited weapon:

6. Any device that is designed to be capable of injuring, immobilizing or incapacitating a person or an animal by discharging an electrical charge produced by means of the amplification or accumulation of the electrical current generated by a battery, where the device is designed or altered so that the electrical charge may be discharged when the device is of a length of less than 480 mm, and any similar device.

In my view, that definition quite accurately described the M26 and X26 conducted energy weapons, and I am satisfied that both are “prohibited weapons” within the *Criminal Code*.

ii. Prohibited firearm

The same 1998 Regulation also stated in s. 2 that “the firearms listed in Part 1 of the schedule are prohibited firearms....” Part 1 of the schedule included reference to the same “Former Prohibited Weapons Order, No. 3,” which listed as a prohibited firearm:

²⁹ See Regulations Prescribing Certain Firearms and Other Weapons, Components and Parts of Weapons, Accessories, Cartridge Magazines, Ammunition and Projectiles as Prohibited or Restricted, SOR/98-462.

Any firearm capable of discharging a dart or other object carrying an electrical current or substance, including the firearm of the design commonly known as the Taser Public Defender and any variant or modified version of it.

It appears that the TASER Public Defender was manufactured in the 1970s, and used gunpowder rather than compressed nitrogen as the propellant. It was probably of a different design than the two current models, because the Department of Justice's Regulatory Impact Statement that accompanied the 1998 Regulation stated that although it had been in the prohibited *weapons* category, it "has been moved to the prohibited *firearms* class because it is a barreled weapon and thus comes within the 'firearm' definition in the Code." I question whether either the M26 or the X26 could be classed as a "barrelled weapon," which is an essential element of the definition of a firearm.³⁰

I am not persuaded that either the M26 or the X26 are "prohibited firearms" within the *Criminal Code*. For the purposes of this analysis, it is enough that they are "prohibited weapons."

b. As an electrical device

There are two aspects to product safety. The first focuses on whether a conducted energy weapon, when functioning properly and used as intended, is safe. The second focuses on whether the device meets quality standards in the sense that it functions properly and regularly within the manufacturer's specifications.

i. Certification of conducted energy weapons as safe

Several people who made presentations during our public forums noted the absence of standards for conducted energy weapons. Dr. John Webster, a biomedical engineer from Wisconsin, observed that there are international standards for electric fences,

30 However, it may be that TASER International, Inc.'s new XREP model, which is a wireless projectile fired from a shotgun, may fit the *Criminal Code* definition of a firearm, which states: "'[F]irearm' means a barrelled weapon from which any shot, bullet or other projectile can be discharged and that is capable of causing serious bodily injury or death to a person..."

but not for conducted energy weapons.³¹ Walter Kosteckyj, legal counsel for Mr. Dziekanski's mother, stated:³²

In short, there are no standards in existence. In almost every other type of electrical device, there are standards which are set. In Canada those standards are generally set by the Canadian Standards Association. That at the very least is an independent body which employs multiple stakeholders and it might be, in my submission, an appropriate place to conduct the oversight that might be needed to test and approve these conducted energy weapons.... [H]ere is a totally unregulated weapon which has never been reviewed or standardized in any way.

A similar concern has been voiced at a national level. In August 2004 the Canadian Association of Chiefs of Police commissioned the Canadian Police Research Centre to conduct a comprehensive review of the existing scientific research and data and provide a national perspective on the safety and use of conducted energy weapons. On the issue of product safety, the authors stated:³³

It has become apparent to the CPRC team that there are no known, scientifically tested, independently verified, and globally accepted CED [conducted energy device] safety parameters. This is problematic for a couple of reasons.

- Police services and authorizing agencies are completely reliant on manufacturer claims regarding the safety of their products. By comparison there are many policing tools and equipment that have an accepted range of safety parameters such as body armour, OC spray concentrations, and police vehicle specifications. In terms of CEDs, what is known is limited to testing of the TASER M26 and X26. If a new CED were to be introduced, police services and authorizing agencies could only rely on manufacturer claims.
- Because of this lack of known safety parameters relating to CED, authorizing agencies are ill-equipped to respond quickly to advances in technology that may be immediately beneficial to police and, eventually, community safety. At least in the context of a few Canadian examples, some authorizing jurisdictions have little independent information to form decisions and policy—with the end result being an unnecessary bureaucratic process,

31 Transcript, May 5, 2008, p. 77.

32 Transcript, May 15, 2008, p. 7.

33 Technical Report TR-01-2006, *Review of Conducted Energy Devices*, p. 34. The report is available at <http://www.css.drdc-rddc.gc.ca/cprc/tr/tr-2006-01.pdf>.

devoid of leadership, that serves few stakeholders. This is a tangible “gap” in the complete understanding of CEDs that needs to be filled.

There are several regulatory approaches that could be employed, if it was felt necessary to certify conducted energy weapons as “safe” before they could be used by law enforcement agencies:

- *Hazardous Products Act*³⁴—this federal legislation is used to regulate a wide range of consumer products.
 - Under s. 6, the Governor in Council may add to the schedule of restricted products any product, material, or substance that is or contains a poisonous, toxic, flammable, explosive, corrosive, infectious, oxidizing, or reactive product, material or substance or other product, material or substance of a similar nature that the Governor in Council is satisfied is or is likely to be a danger to the health or safety of the public.
 - Under s. 5, the Governor in Council may make regulations prescribing the circumstances and conditions under which specified restricted products may be imported into, and sold in, Canada. By adding conducted energy weapons to the list of restricted products, the federal government could require that they undergo safety testing or product standards certification before being imported or sold.
- *Canadian Standards Association*—the association is a non-profit, private organization, accredited by the Standards Council of Canada, that tests products for compliance to national and international standards, and issues certification marks for qualified products. Certification marks tell potential customers and users that a product has been evaluated by a formal process—involving examination, testing, and follow-up inspection—and that it complies with applicable standards for safety and performance.

ii. Testing of individual conducted energy weapons

Apart from the issue of pre-deployment certification, to what extent can individual conducted energy weapons, once deployed, be tested to ensure that they are operating to the manufacturer’s specifications? The test commonly used by law enforcement personnel to assess functionality of an individual conducted energy weapon is the “spark” test. When a cartridge is not attached, pulling the trigger causes an electric spark to jump between the two electrodes at the nose of the

34 R.S.C. 1985, c. H-3.

weapon, which verifies that the device is working and that the batteries are adequately charged. However, it does not indicate the level of energy output produced.³⁵ When Cst. Mike Massine, the officer in charge of the conducted energy weapon program for the Victoria Police Department, testified at our public forums, he confirmed that the spark test (which is done at the start of each officer's shift) does not confirm that the weapon is operating to the manufacturer's specifications.³⁶

The RCMP's Conducted Energy Weapon Operational Manual³⁷ deals specifically with independent testing of conducted energy weapons. Until recently it stated that:

9. 1. The Canadian Police Research Center (CPRC) will conduct independent testing of a CEW when:
 - 9.1.1. someone is seriously injured or dies when a member resorts to lethal force because a CEW was ineffective or malfunctioned;
 - 9.1.2. a member is seriously injured or dies as a direct or indirect result of a CEW malfunction; or
 - 9.1.3. any incident in which it is in the public interest or the member's interest to determine the working state of a CEW.

It is noteworthy that testing was normally required only when there was evidence that the conducted energy weapon had malfunctioned. Testing was not required when a subject's serious injury or death was proximate to use of a weapon (when there was no evidence of malfunction), unless testing was ordered in the "public interest" under paragraph 9.1.3.

35 See TASER International, Inc.'s Operating Manual for X26C (the civilian model based on the X26 law enforcement model): <http://www.taser.com/products/consumers/Pages/TASERX26C.aspx> (see downloads).

36 Transcript, May 6, 2008, p. 29. See also, to the same effect, United States Government Accountability Office, "Taser Weapons: Use of Tasers by Selected Law Enforcement Agencies" GAO-05-464, 2005, p. 13.

37 RCMP Operational Manual, Chapter 17.7—Conducted Energy Weapon. Section 9, "Independent CEW Testing."

In February 2009, the RCMP's policy was amended. It now states:

9. Independent CEW Testing
 - 9.1. Independent testing of a CEW at a designated testing facility will be completed when:
 - 9.1.1. an incident involves injury requiring medical treatment or death proximal to the use of a CEW;
 - 9.1.2. a CEW was ineffective or malfunctioned; or
 - 9.1.3. a supervisor of an incident, a Divisional Use of Force Coordinator, a Criminal Operations Officer, the National Use of Force Officer, or National Criminal Operations Branch is of the opinion that testing is warranted in the circumstances, including in order to address any concerns about the performance of a CEW or the circumstances or impacts of its use.
 - 9.2. Testing of the CEW will determine the working state of the CEW and if the weapon is functioning as per the manufacturer's specifications.
...
 - 9.4.2 Divisional CROPS are to contact the DG NCROPS for the designated testing facility.³⁸

The Canadian Police Research Centre performs the tests based on TASER International, Inc.'s "Open Circuit Voltage Measurement Procedure" and "Load Voltage and Current Measurement Procedure." The results obtained using these protocols include:

- The open circuit voltage (*i.e.*, whether the voltage produced is the specified 50,000 volts);
- The maximum load voltage and current experienced with 250 ohms of resistance (*i.e.*, the voltage and current experienced by a subject, assuming 250 ohms of resistance is present); and
- The electrical frequency of the device (*i.e.*, whether the frequency of pulses is the specified 19 cycles per second).

Additional information, such as the energy produced in joules, could be recorded but is not done as part of the protocol currently used.³⁹

³⁸ See <http://www.RCMP-grc.gc.ca:80/ccaps-spcca/cew-ai/operations-17-7-eng.htm>.

Several municipal police forces in British Columbia⁴⁰ have policies requiring that a conducted energy weapon be submitted either to a supervisor or the investigating field officer, and retained as an exhibit, when the weapon has been discharged and death or grievous bodily harm or injury results. The policies do not specify that the weapon be tested for electrical output.

In 2008 the Canadian Broadcasting Corporation retained National Technical Systems to test 44 TASER X26 weapons (apparently taken from active service), and those tests were reviewed by three researchers, including Dr. Pierre Savard, one of the presenters at our public forums.⁴¹ The researchers determined that three units could not generate any current, even with charged battery packs. The study found that five of the remaining 41 weapons had grossly abnormal electrical characteristics:

- One unit could not generate current in a sustained manner when first loaded, but after a dozen attempts it worked properly and testing could be completed; and
- Four units generated currents above the ± 15 percent limits when connected to a 250 ohm load, as set out in Table 2.

Table 2: Abnormal electrical characteristics of tested X26 weapons

	Peak current	Average current	Peak voltage	Energy/pulse (mJ)
Mfgr. Spec.	3.3 ampere	2.1 milliampere	1200 volt	70 millijoule
Weapon ID				
A03	5.212	3.40	1115	97.9
A09	4.857	3.15	1090	99.1
A18	5.138	3.36	1170	96.8
B03	4.840	2.96	1059	106.0

The four weapons with peak currents that were 47–58 percent higher than the values specified by the manufacturer were among a group of six tested weapons that had

39 Information provided by Steve Palmer, Executive Director, Canadian Police Research Centre, on July 7, 2008. Mr. Palmer also advised the Commission that the centre is currently working with the United Kingdom's Home Office, the National Institute of Justice, and Pennsylvania State University to develop an independent, uniform conducted energy weapon testing methodology.

40 Oak Bay, Saanich, Central Saanich, Vancouver, New Westminster, Port Moody, and Nelson.

41 Savard, Pierre et al., "Analysis of the Quality and Safety of the Taser X26 devices tested for Radio-Canada/Canadian Broadcasting Corporation by National Technical Systems, Test Report 41196-08.SRC," available at <http://www.cbc.ca/news/pdf/taser-analysis-v1.5.pdf>.

been bought before 2005 which, according to the Savard review, “raises concerns about quality control during manufacturing, possible change of design and component aging” (p. 8). The reviewers also expressed concern that such abnormally high current pulses could possibly trigger extrasystoles (premature contractions of the heart), which could possibly reduce the threshold for ventricular fibrillation, especially if the barbs were discharged into the chest area, spanning the heart. They recommended:

- a moratorium on X26 weapons manufactured before 2005;
- further study of the electrical characteristics of X26 weapons in use in Canada and the U.S.A. (*i.e.*, output and irregular or variable discharges) using a standardized testing protocol such as that used in this study; and
- that the testing protocol include continuous, high-resolution recordings lasting at least two seconds, in order to measure possible changes in a series of 36 or more individual current pulses, and also include an evaluation of the effects of “spark testing.”⁴²

Within days of release of the Savard analysis, BC’s Minister of Public Safety and Solicitor General announced⁴³ that all municipal chiefs of police and other provincially regulated law enforcement agencies had agreed to withdraw from service all weapons acquired before January 2006 for independent testing, to ensure that they generate electrical currents consistent with the manufacturer’s specifications. He also announced: “Municipal police have also agreed to research and establish a standard for regular calibration of all [conducted energy weapons] used in the province, and RCMP in BC have also been asked to comply.”

From my examination of this issue, I have reached four conclusions. First, based on information the Commission received from the Canadian Police Research Centre, it is possible to test conducted energy weapons to determine whether they are functioning in accordance with the manufacturer’s specifications.

42 On December 2, 2008, TASER International, Inc., Vice-President Magne Nerheim wrote a detailed rebuttal to the CBC, challenging the testing protocol followed by National Technology Systems, and recommending that NTS repeat the test, first spark testing every unit as officers are trained to do, and discharging the weapons into a 600 ohm load, the average resistance of human subjects.

43 Information Bulletin, December 9, 2008, available at http://www2.news.gov.bc.ca/news_releases_2005-2009/2008PSSG0067-001862.htm.

Second, the policy applicable to municipal police departments in British Columbia does not require that a conducted energy weapon be tested following an incident in which a person died or was seriously injured.

Third, since February 2009, the RCMP policy requires that a conducted energy weapon be tested following an incident involving injury requiring medical treatment or death proximal to the use of a conducted energy weapon, or in other cases when specified senior officers are of the opinion that testing is warranted in the circumstances.

Fourth, the weapon test commissioned by the CBC raises concerns about quality control and about the capacity of some models to emit a current exceeding the manufacturer's specifications. It is gratifying that at least some models will be subjected to rigorous independent testing, and that BC's law enforcement agencies will work together in establishing a standard for regular calibration of all conducted energy weapons used in the province. As I will discuss in more detail in Part 10, I believe that the parameters that should be measured in the proposed testing protocol should include, but not necessarily be limited to:

- pulse rate or frequency (*i.e.*, number of pulses per second);
- pulse duration (in microseconds);
- peak output current during a pulse (in amperes); and
- delivered charge (in micro-coulombs).

2. Provincial regulation

As I discussed earlier, there is in British Columbia neither legislation nor regulations dealing specifically with conducted energy weapons. Such weapons are likely “firearms” within the meaning of the provincial *Firearm Act*, which defines “firearm” to include “any gun using, as a propellant, compressed air, explosives or gas.” However, there would be little utility in regulating conducted energy weapons under this legislation, since the federal *Criminal Code* makes them prohibited weapons.

Although a conducted energy weapon meets the definition of “intermediate weapon” in the *Use of Force Regulation* discussed earlier, the Regulation gives no indication

that the provincial government has designated conducted energy weapons as intermediate weapons. Rather, s. 9 of the Regulation leaves it up to a chief constable and the provincial Director of Police Services to approve a specific weapon as an intermediate weapon.

During our public forums, the provincial Director of Police Services told me⁴⁴ that in the early 1990s the predecessor BC Police Commission developed, in consultation with police departments, approximately 400 minimum standards of policing. For the most part, they did not specify what the standards should be. Rather, they stated that each police department must have a standard on specified matters. These minimum standards have been used during the director's audits of police departments to determine whether they have policies in place. According to the director, these minimum standards are under review, the goal being to establish a new set of high-level policing standards that will be sanctioned by regulation.

Some of these minimum standards deal with use of force. The ones that apply to conducted energy weapons require, for example, written policies on:

- the carrying of weapons while off duty;
- the use and control of weapons issued by the police department;
- procedures for weapons inspections;
- written reports whenever an officer applies force through the use of a weapon, or takes action that results in injury or death;
- procedures for reviewing incidents in which an officer applies force by means of a weapon; and
- the criteria to be applied respecting assignment of an officer whose use of force results in a death or grievous bodily harm.

In the course of reviewing each police department's use-of-force policies, one of the Commission's researchers prepared a matrix showing the extent to which each department's policies address the issues specified in the ministry's minimum standards. The matrix is included as Appendix D.

⁴⁴ Transcript, May 7, 2008, pp. 48-51.

3. Regulation in the United States

Early models of conducted energy weapons, such as the TASER Public Defender, used a gunpowder explosion to propel the darts, and were consequently classified as a firearm under Title 26 of the *United States Code*.⁴⁵ This resulted in such weapons being regulated by the U.S. Bureau of Alcohol, Tobacco, Firearms and Explosives. In 1985 the U.S. Consumer Product Safety Commission announced that conducted energy weapons, because they were firearms, were outside its jurisdiction.

In 1994 conducted energy weapons were modified to use compressed air and later compressed nitrogen, instead of gunpowder, as the propellant. The Bureau consequently decided that such weapons no longer fit the *United States Code*'s definition of a firearm, and were thus not within its regulatory jurisdiction. However, the Consumer Product Safety Commission has not revisited its 1985 ruling, and still considers conducted energy weapons to be firearms.

The result is that in the United States, conducted energy weapons are not regulated federally, and there are no industry standards.⁴⁶

C. COURT DECISIONS ON CONDUCTED ENERGY WEAPON USE

The use of conducted energy weapons has been an issue in several Canadian court decisions during the past decade, some of which I will summarize below.

1. Criminal charges against police officers

There have been five cases in which a police officer was charged with assault with a weapon under s. 267(a) of the *Criminal Code*. In all cases, the officer argued that

⁴⁵ 26 U.S.C. 5801-5872 (also known as the *National Firearms Act*).

⁴⁶ The Potomac Institute, a non-profit public policy research institute specializing in scientific and technological issues, stated, "There are no federal restrictions or guidelines for stun device use—nor for importation from foreign suppliers for that matter. Moreover, there is no regulatory body (private or public) and there are no industry standards." *Efficacy and Safety of Electrical Stun Devices*, March 29, 2005, p. 4, available at http://www.potomacinstitute.org/research/Stun%20Devices%20Report_FINAL.pdf.

using the conducted energy weapon was, in the circumstances, a use of reasonable force and consequently s. 25 protected the officer from criminal liability.

In three of the cases, the court accepted that the force used was not excessive, and acquitted the accused police officer. In two cases, the court ruled that the officer did not have reasonable grounds to arrest the person, and consequently the officer could not claim the protection of s. 25.

a. Officer did not use excessive force

In *R. v. Hannibal*,⁴⁷ Mr. Thompson, who suffered from bipolar disorder and post-traumatic stress disorder, was resisting arrest but was not violent. Five RCMP officers attended the scene. Three officers had pinned Mr. Thompson down and were in the process of handcuffing him when the accused, without any warning, used the conducted energy weapon in the touch-stun mode twice on Mr. Thompson.

The court acquitted the officer, finding a reasonable doubt as to whether the officer's use of the weapon amounted to excessive force. The officer had received a radio transmission that Mr. Thompson might be combative, and he observed that Mr. Thompson was verbally abusive and he was becoming more agitated. The officer's conduct fell within the range of appropriate use of force taught in his training; in particular, RCMP training materials allowed conducted energy weapons to be used in touch-stun mode when a subject was resisting arrest. The Court did express a general concern that, although a conducted energy weapon is a potentially effective tool, it should not be used as a "panacea for any form of non-cooperative or resistant behaviour" (para. 158).

In *R. v. St. Amand*,⁴⁸ five RCMP officers, executing a valid drug warrant, entered a residence where a party was in progress. The scene was described as chaotic—the room was filled with smoke and loud music was playing. Another officer forcibly took a 120-pound woman to the ground. The accused officer saw the woman act abusively

47 [2003] B.C.J. No. 3119 (BC Provincial Court).

48 [2006] B.C.J. No. 3059 (BC Provincial Court).

(both verbally and physically) toward the other officer, and perceived her movements in attempting to get up as “threat cues.” The accused also observed a dog attack another officer. The accused used the conducted energy weapon in touch-stun mode twice on the woman’s lower back.

The court acquitted the officer, concluding that he had discharged the weapon for as short a period of time as would be humanly possible. In the circumstances, use of the weapon did not constitute excessive force.

In *R. v. Galloway*,⁴⁹ a woman was forcibly arrested for uttering a death threat. She was handcuffed at her residence and brought to the police station, where she resisted when two female officers attempted to remove the handcuffs. The accused intervened, using the conducted energy weapon three times in order to gain compliance. The trial judge acquitted the officer, finding that his actions were reasonable in order to aid his fellow officers. On appeal, the court affirmed the trial judge’s conclusion.

b. Officer did not have reasonable grounds to make the arrest

In *R. v. Shott*,⁵⁰ the accused RCMP officer attended Mr. Brown’s residence to investigate an alleged fraud, for failing to pay a taxi fare. Mr. Brown admitted the accused into the residence and, after a short conversation, the accused attempted to arrest Mr. Brown, placing his arm on Mr. Brown’s elbow to bring him outside. When Mr. Brown jerked away, the accused used the conducted energy weapon in probe mode, having concluded that “verbalization” and “soft hand contact” had not worked, it would be inappropriate to use pepper spray in an enclosed space, and using a baton would be excessive. Mr. Brown was immediately incapacitated and fell to the floor, where the accused handcuffed him. The accused subsequently realized that Mr. Brown was not the taxi passenger, and released him.

49 [2007] N.S.J. No. 92 (Nova Scotia Supreme Court).

50 [2006] A.J. No. 1337 (Alberta Provincial Court).

The court convicted the accused. He did not have reasonable grounds to arrest Mr. Brown, and consequently could not claim the protection of s. 25.

In *R. v. Cameron*,⁵¹ the accused RCMP officer arrived outside a pub after a call for assistance from a fellow officer. The accused saw the complainant (Mr. Campbell) approaching another officer in what he perceived to be a threatening way. Mr. Campbell then climbed into a passenger seat of a car, in which there were three other occupants, including two women who seemed distraught. The accused did not know that the other officer had instructed the group to leave the scene, so he stopped the car, removed Mr. Campbell from the vehicle and arrested him for causing a disturbance by fighting, even though there had in fact been no fight. After walking Mr. Campbell to the police vehicle, he used the conducted energy weapon on Mr. Campbell's back in push-stun mode, for one second or less, in order to get him to climb inside the vehicle. The trial judge found that the accused acted within RCMP policy when applying the weapon and, citing *R. v. Hannibal* as authority, determined this was a relevant factor in deciding whether Constable Cameron's actions were reasonable. However, a reasonable person in the accused's position would have made more enquiries prior to arresting Mr. Campbell, and he did not have reasonable and probable grounds for the arrest. The accused was found guilty of assault with a weapon because he was not acting in execution of his duty when applying the conducted energy weapon.

2. Police officer's use of excessive force

In some cases, a court will exclude evidence or judicially stay criminal proceedings, if satisfied that an officer's use of a conducted energy weapon breached the accused's rights under s. 7 (security of the person) or s. 12 (cruel and unusual treatment or punishment) of the *Charter of Rights and Freedoms*.

51 [2008] B.C.P.C. 0231 (BC Provincial Court).

In *R. v. Merrick*,⁵² the accused protested verbally when told he was being arrested for a drinking-driving offence, and may have held onto a handrail. One of the three officers used a conducted energy weapon on the accused and, when the accused fell to the ground, the officer used the weapon a second time, claiming that by telling the officers to get out, the accused was actively resisting. The court found that both weapon deployments were unreasonable, and that telling the officers to get out could not constitute active resistance. Cumulatively, the unlawful entry into the accused's home, the unlawful arrest, and the excessive use of force warranted a judicial stay of proceedings.

In *R. v. Walcott*,⁵³ the court found that the first officer's use of a conducted energy weapon twice was reasonable, but that the second officer's use of another weapon three times was not, because the latter uses must have occurred after the accused had been subdued and handcuffed. The second officer's conduct violated Toronto Police Service policy, which allows use of a conducted energy weapon only when the accused demonstrates assaultive behaviour. The officer's egregious act of misconduct warranted a stay of proceedings.

In *R. v. J.W.*,⁵⁴ a 15-year-old youth was arrested for breaking and entering. The youth denied carrying a weapon but one was found during a pat-down search, which led to a strip search. After the youth put his clothes back on, the officer used a conducted energy weapon in stun mode on the youth's hip, but did not record the incident in his notes or complete the required use-of-force form. The court ruled that the strip search was justifiable, but that use of the weapon was unnecessary, outside policy, and constituted a shocking abuse of police powers, necessitating a judicial stay of proceedings.

52 [2007] O.J. No. 2266 (Ontario Court of Justice).

53 (2008), 57 C.R. (6th) 223 (Ontario Superior Court), and Article at p. 263 *ff.*

54 [2006] A.J. No. 1097 (Alberta Provincial Court).

3. Conclusions

From my examination of these and other court decisions, I have reached four conclusions. First, it would be unwise to generalize from these decisions, since in each case so much depended on the trial judge's findings of fact.

Second, one of the relevant factors (but not necessarily the determining one) is the extent to which the police officer acted in accordance with his or her training and with the police department's policy respecting when a conducted energy weapon may be deployed.

Third, the varying policies among police forces about when a conducted energy weapon may be deployed creates the risk of inconsistent verdicts across Canada. For example, using a conducted energy weapon when a person is actively resistant may protect an officer from an accusation of using excessive force in one jurisdiction, but may not in another jurisdiction that authorizes the weapon's use only in the case of assaultive behaviour.

Fourth, officer safety is a relevant factor in these court decisions. In all cases where an officer was at risk of injury or held a reasonable belief that he or she was at risk, the courts found that the use of a conducted energy weapon did not constitute excessive force. The converse, however, is not true, as there are cases where there appeared to be no danger to an officer or a civilian, yet the court still found that the force used was reasonable.

Part 5

British Columbia Police Departments' Policies on Conducted Energy Weapon Use

**PART 5: BRITISH COLUMBIA POLICE DEPARTMENTS' POLICIES
ON CONDUCTED ENERGY WEAPON USE**

PART 5: BRITISH COLUMBIA POLICE DEPARTMENTS' POLICIES ON CONDUCTED ENERGY WEAPON USE

A.	INTRODUCTION	93
B.	THE USE OF FORCE CONTINUUM.....	94
1.	National Use of Force Framework.....	95
a.	<i>The situation</i>	96
b.	<i>The subject's behaviour</i>	97
c.	<i>The officer's perceptions and tactical considerations</i>	98
2.	The RCMP's Incident Management/Intervention Model.....	99
a.	<i>The former model</i>	99
b.	<i>The revised model</i>	101
c.	<i>New policy for conducted energy weapons</i>	103
C.	POLICIES ON USE OF CONDUCTED ENERGY WEAPONS	104
1.	Designation of conducted energy weapons	104
2.	Training in the use of conducted energy weapons	105
3.	Wearing of a conducted energy weapon	105
4.	When a conducted energy weapon should not be used	106
5.	Pre-deployment considerations	106
6.	Deployment considerations	107
a.	<i>Categories of subject behaviour</i>	107
b.	<i>Types of deployment</i>	111
c.	<i>Use of the weapon-mounted camera to record discharge</i>	112
7.	Post-deployment considerations	112
8.	Reporting on conducted energy weapon use	114
9.	Administration	115
D.	CONCLUSIONS.....	116

**PART 5: BRITISH COLUMBIA POLICE DEPARTMENTS' POLICIES
ON CONDUCTED ENERGY WEAPON USE**

A. INTRODUCTION

In this part, I will examine the policies that individual policing bodies have developed that deal specifically with the use of conducted energy weapons. The absence of provincial leadership has resulted in a patchwork quilt, with troubling gaps and inconsistencies.

Before undertaking this examination, I will identify the law enforcement bodies whose policies have been reviewed. There are currently 11 municipal police departments providing policing services in 12 municipalities, as set out in Table 3. In all other areas of the province (accounting for approximately 70 percent of the provincial population), the RCMP acts as the provincial police force.

Table 3: Municipal police departments in British Columbia

Region	Municipality	Population ⁵⁵	Police strength ⁵⁶
Greater Victoria	Victoria (including Esquimalt)	96,066	222
	Saanich	110,737	147
	Central Saanich	16,768	21
	Oak Bay	18,059	24
Lower Mainland	Vancouver	589,352	1,235
	West Vancouver	46,764	80
	Delta	102,945	160
	Port Moody	30,120	45
	New Westminster	57,645	109
	Abbotsford	129,685	199
Kootenays	Nelson	9,923	20

In addition, there are several provincially regulated law enforcement agencies:

- The *South Coast British Columbia Transportation Authority Police Service (Transit Authority Police)* delivers policing services to multiple modes of the transit system: rail (SkyTrain and West Coast Express), bus, and the SeaBus. As the Transit Authority Police is a supplementary police agency, the

⁵⁵ Source: 2006 Federal Census.

⁵⁶ Police Services Branch, Ministry of Public Safety and Solicitor General. See http://www.pssg.gov.bc.ca/police_services/publications/statistics/policeresourcesinbc.pdf (2007).

relevant municipal police department or RCMP detachment retains primary responsibility for policing in each jurisdiction.

- The provincial *Sheriff Services* is a subdivision of the Court Services Branch of the Ministry of Attorney General. Its responsibilities include transporting prisoners, providing courtroom security, assembling and supervising juries, serving court documents, and carrying out court orders.
- The provincial *Corrections Branch* (Adult Custody Division) is a branch of the Ministry of Public Safety and Solicitor General. It operates correctional centres, which hold inmates who are remanded in custody for trial, sentenced to imprisonment for the commission of offences, or detained by immigration authorities.
- The *Stl'atl'imx Tribal Police Force* and *Kitasoo-Xaixais Public Safety Department* are designated policing units established under s. 4.1 of the *Police Act*, to provide policing on specified reserves in the Lillooet and Klemtu areas, respectively.

B. THE USE OF FORCE CONTINUUM

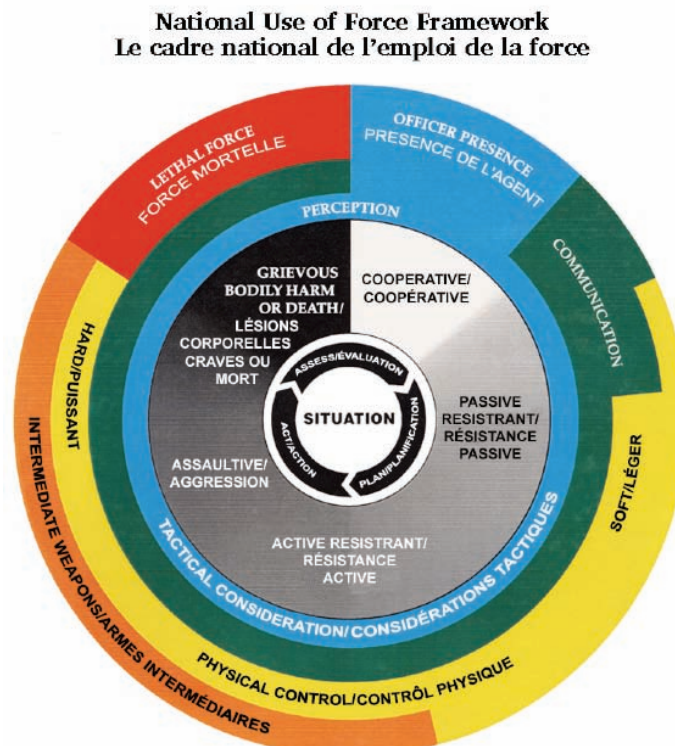
In order to put the discussion of police departments' policies respecting conducted energy weapon use into the proper context, one needs to be familiar with a concept known in policing as the “use-of-force continuum.” There are two principal models:

- The National Use of Force Framework (NUFF) was developed in 1999 by 65 use-of-force trainers across Canada and the United States. The Canadian Association of Chiefs of Police endorsed it as a framework from which law enforcement agencies could build their own use-of-force policies or standards;⁵⁷ and
- The Incident Management/Intervention Model (IM/IM) was developed by the RCMP for use by its officers.

⁵⁷ See *The Police Chief* magazine, June 2008, available at http://policechiefmagazine.org/magazine/index.cfm?fuseaction=display_arch&article_id=1397&issue_id=102004.

1. National Use of Force Framework

Diagram 1: National Use of Force Framework⁵⁸



The officer continuously assesses the situation and acts in a reasonable manner to ensure officer and public safety.

L'agent doit continuellement évaluer la situation et agir de manière raisonnable afin d'assurer sa propre sécurité et celle du public.

The National Use of Force Framework (NUFF—see Diagram 1) includes a graphical representation of the various factors a police officer uses to assess a situation and act in a reasonable manner to ensure officer and public safety. It promotes a continuous assessment and evaluation of each situation, and helps officers understand and make use of a variety of force options to respond to potentially violent situations.

⁵⁸ The Canadian Association of Chiefs of Police, *A National Use of Force Framework* (Ottawa: CACP, 2000), see <http://www.cacp.ca/media/library/download/264/nationaluofframework.pdf>.

Six principles underlie the national framework:

1. A peace officer's primary responsibility is to preserve and protect life;
2. Public safety is the primary objective of any use of force;
3. Police officer safety is essential to public safety;
4. The National Use of Force Framework does not replace or augment the law; the law speaks for itself;
5. The National Use of Force Framework was constructed in consideration of (federal) statute law and current case law; and
6. The National Use of Force Framework is not intended to dictate policy to any agency.

Those who drafted the framework explain how the graphic should be used:

The assessment process begins in the centre of the graphic with the situation confronting the officer. From there, the assessment process moves outward and addresses the subject's behaviour and the officer's perceptions and tactical considerations. Based on the officer's assessment of the conditions represented by these inner circles, the officer selects from the use-of-force options contained in the framework's outer circle. After the officer chooses a response option the officer must continue to assess, plan, and act to determine whether his or her actions are appropriate and effective. The whole process should be seen as dynamic and constantly evolving until the situation is brought under control⁵⁹ [emphasis added].

In a November 2000 commentary on the National Use of Force Framework,⁶⁰ the Canadian Association of Chiefs of Police discussed the three principal components of the assessment process: the situation, the subject's behaviour, and the officer's perception and tactical considerations.

a. The situation

When an officer responds to an incident, the officer must address at least six different conditions, which I summarize as follows:

- *The environment*—including weather, time of day, location, and physical position;

⁵⁹ *Ibid.*, p. 11.

⁶⁰ *Ibid.*

- *Number of subjects*—meaning that the number of officers versus the number of subjects will affect the officer's assessment of the situation;
- *Perception of subject's abilities*—including intoxication by alcohol or drugs; subject's size, strength, and emotional state; and proximity to weapons;
- *Prior knowledge of subject*—including criminal history and reputation;
- *Time and distance*—including pressing threat to public safety, availability of cover, imminent arrival of backup, and ability to increase the distance; and
- *Potential attack signs*—meaning a subject's physical behaviours that may give clues as to the subject's intentions (*e.g.*, ignoring the officer; aggressive verbalization; refusing to comply with a lawful request; invasion of personal space; and hiding).

b. The subject's behaviour

The framework divides subject behaviours into five categories, and gives examples of the types of behaviour that fall within each category, which I quote:

- *Cooperative*—the subject responds appropriately to the officer's presence, direction, and control.
- *Resistant (passive)*—the subject refuses, with little or no physical action, to cooperate with the officer's lawful direction. This can assume the form of a verbal refusal or consciously contrived physical activity.
- *Resistant (active)*—the subject uses non-assaultive physical action to resist, or while resisting an officer's lawful direction. Examples would include pulling away to prevent or escape control, or overt movements such as walking toward, or away from an officer. Running away is another example of active resistance.
- *Assaultive*—the subject attempts to apply, or applies force to any person; attempts or threatens by an act or gesture to apply force to another person, if he/she has, or causes that other person to believe upon reasonable grounds that he/she has, present ability to effect his/her purpose. Examples include kicking and punching, but may also include aggressive body language that signals the intent to assault.
- *Grievous bodily harm or death*—the subject exhibits actions that the officer reasonably believes are intended to, or likely to, cause grievous bodily harm or death to any person. Examples include assaults with a knife, stick, or firearm, or actions that would result in serious injury to an officer or member of the public.

c. The officer's perceptions and tactical considerations

These can be summarized as follows:

- *Perceptions*—how an officer sees or perceives a situation is, in part, a function of the personal characteristics he or she brings to the situation. These personal characteristics affect the officer's beliefs concerning his or her ability to deal with the situation. They include strength, training, fears, gender, fatigue, injuries, cultural background, and sight/vision.
- *Tactical considerations*—these include the option of disengaging, officer appearance, uniform and equipment, number of officers, availability of backup or cover, and availability of special units and equipment.

Based on the officer's assessment of the situation, the officer must develop a plan that involves selecting an appropriate response. The dynamic nature of the situation requires constant assessment, which means that the force options selected may change at any point:

- *Officer presence*—the simple presence of an officer, or visible signs of authority such as a uniform or marked police car may change a subject's behaviour.
- *Communication*—an officer may use verbal and non-verbal communication to control and/or resolve the situation.
- *Physical control*—this means any physical technique, not involving the use of a weapon, used to control a subject. *Soft* techniques include restraining techniques, joint locks and non-resistant handcuffing. *Hard* techniques include empty hand strikes such as punches and kicks.
- *Intermediate weapons*—these are less lethal weapons (those whose use is not intended to cause serious injury or death), which include impact weapons and aerosols.⁶¹
- *Lethal force*—this involves the use of any weapons or techniques that are intended to, or are reasonably likely to, cause grievous bodily harm or death.

Although force options are arrayed along a continuum of severity, the officer is not required to attempt all lower level force options before applying a higher level of force. Choice of force turns on an officer's overall assessment of the demands of the

⁶¹ Although the framework does not refer specifically to conducted energy weapons (presumably because they did not come into use until after the framework was developed), it is generally accepted that conducted energy weapons are another example of intermediate weapons.

situation. For this reason, the National Use of Force Framework is represented visually in the form of a wheel, to emphasize the non-linear nature of this assessment.

Four British Columbia law enforcement agencies explicitly reference the National Use of Force Framework as governing the response of their officers.⁶²

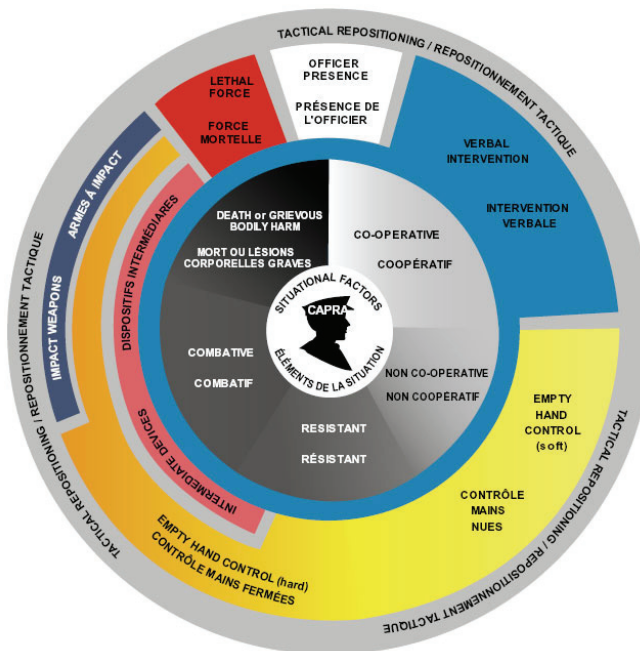
2. The RCMP's Incident Management/Intervention Model

The RCMP has developed a similar use-of-force model known as the Incident Management/Intervention Model (IM/IM), with a similar graphical depiction (see Diagram 2).

a. The former model

When this Commission began its work, the IM/IM was as follows:

Diagram 2: Incident Management/Intervention Model⁶³



62 Central Saanich, Abbotsford, Nelson, and the Transit Authority Police. However, all provincially regulated law enforcement agencies have use-of-force models that follow a roughly similar organizational structure.

63 See <http://www.rcmp-grc.gc.ca/ccaps-spcca/cew-ai/imim-migi-eng.htm>. The graphic model illustrated here has been revised.

According to the RCMP,⁶⁴ seven principles apply in determining whether and how to intervene in a policing situation:

1. The primary objective of any intervention is public safety.
2. Police officer safety is essential to public safety.
3. The intervention model must always be applied in the context of a careful assessment of risk.
4. Risk assessment must take into account the likelihood and extent of life loss, injury, and damage to property.
5. Risk assessment is a continuous process and risk management must evolve as situations change.
6. The best strategy is to utilize the least amount of intervention to manage the risk.
7. The best intervention causes the least amount of harm or damage.

In the inner (grey) portion of the graphic, five potential levels of resistance of suspects were set out, and the Incident Management/Intervention Model provided informative descriptions of expected behaviours of individuals displaying each of these levels. Comparing these descriptions to the National Use of Force Framework satisfies me that they are substantively the same. The Incident Management/Intervention Model categories of resistance of individuals stated:

- *Cooperative*—there is no resistance. The person responds positively to verbal requests, commands, or activation of a police vehicle's emergency equipment. The person willingly complies.
- *Non-cooperative*—there is little or no physical resistance. The person does not comply with the officer's request. This can be done through verbal defiance with little or no physical response or failing to pull their vehicle over and stop when an officer activates the police vehicle's emergency equipment. This may include refusal to leave the scene, failure to follow directions, taunting officers, and advising others to disregard officer's lawful requests.
- *Resistant*—the person demonstrates resistance to control by the police officer through behaviours such as pulling away, pushing away, or running away. This can include a situation where a police officer activates a police

64 The revised Incident Management/Intervention Model now includes six principles. See footnote 63.

vehicle's emergency equipment and the suspect fails to stop and attempts to evade apprehension by driving evasively.

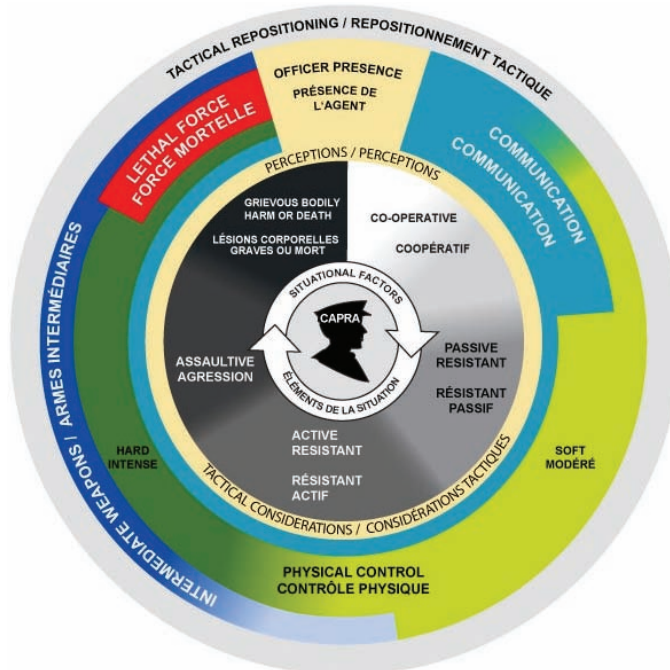
- *Combative*—the person attempts or threatens to apply force to anyone (*e.g.*, punching; kicking; clenching fists with intent to hurt or resist; threats of an assault). In the case of a person operating a vehicle, they attempt to collide with the police vehicle, another vehicle, or a pedestrian.
- *Person shows the potential to cause grievous bodily harm or death*—the person acts in a way which would lead the police officer to believe could result in grievous bodily harm or death to the public or the police (*e.g.*, knife attack; baseball bat; use of firearm. In the case of a person operating a vehicle, they collide with the police, police vehicle, another vehicle, or a pedestrian).

With respect to the force options available to officers, there was one significant difference between the National Use of Force Framework and the RCMP's former Incident Management/Intervention Model. While both models authorized the use of "intermediate weapons/devices" (including conducted energy weapons) when the subject's behaviour reached the active resistant (National Use of Force Framework) or resistant (RCMP) level, the RCMP's Incident Management/Intervention Model included a higher level "impact weapons" category between the 8:30 and 11:00 o'clock positions, and authorized the use of extendable batons and extended impact weapons (such as a sock round) only when this level of subject behaviour was reached. In other words, these types of weapons could be used only when the subject was combative, whereas conducted energy weapons could be used in the case of resistant behaviour.

b. The revised model

According to an operational manual bulletin dated December 14, 2007, the RCMP advised its members that, effective immediately, a conducted energy weapon could only be deployed on persons "who are displaying Active Resistant Behaviour and higher categories of behaviour" (para. 1.1). The types of subject behaviours included in that term are comparable to the "Resistant" behaviours described in the former model. During the RCMP's oral presentations at our public forums, I was referred to a revised graphic depiction of the IM/IM (see Diagram 3), which had recently been introduced.

Diagram 3: Revised Incident Management/Intervention Model⁶⁵



The new wheel adopts the same terminology as the National Use of Force Framework wheel for the second, third, and fourth categories of suspect behaviour—passive resistant, active resistant, and assaultive. Comparing the types of subject behaviours that the two models describe for these categories, I am satisfied that the two models are substantively the same.

The new Incident Management/Intervention Model wheel also eliminates the reference to “impact weapons.” While this change does not affect conducted energy weapons, it would appear that the threshold for use of extendable batons and extended impact weapons has been lowered to instances of active resistant behaviour.

⁶⁵ See Assistant Commissioner Macintyre’s PowerPoint presentation to the Commission’s public forum, May 22, 2008, slide 7. Although the RCMP’s website continued to show the former graphic depiction (Diagram 2) as recently as May 6, 2009, I was advised that it would be updated imminently.

c. New policy for conducted energy weapons

On February 12, 2009, RCMP Commissioner William Elliott made a presentation to the House of Commons Standing Committee on Public Safety and National Security, in which he stated:

On June 18, 2008, all members of the RCMP were instructed that the CEW “must only be used where it is necessary to do so in circumstances of threats to officer or public safety.” This requirement has subsequently been written into our formal policy.⁶⁶

The new policy, found in the RCMP’s Operational Manual—Conducted Energy Weapon,⁶⁷ can best be understood when compared to the previous policy, both of which are set out below:

Previous policy

3.1.1. The CEW must be used in accordance with CEW training and the principles of the Incident Management/Intervention Model (IM/IM).

New policy

3.1.1. The CEW must only be used in accordance with CEW training, the principles of the Incident Management/Intervention Model (IM/IM) and in response to a threat to officer or public safety as determined by a member’s assessment of the totality of the circumstances being encountered.

NOTE: Member’s actions must be reasonable and the force used must be necessary in the circumstances.

Under the previous policy, conducted energy weapon usage had to comply with training and the Incident Management/Intervention Model use-of-force continuum. As discussed earlier, they authorized use in the face of a subject’s active resistance. The new policy continues to make both those factors applicable (which must mean that active resistance continues to be the subject behaviour threshold), but now adds a new requirement, “a threat to officer or public safety.” I interpret the new policy to mean that an RCMP officer may now deploy a conducted energy weapon against a

⁶⁶ See <http://www.RCMP-grc.gc.ca/news-nouvelles/2009/2009-02-12-commiss-secu-eng.htm>.

⁶⁷ See <http://www.RCMP-grc.gc.ca:80/ccaps-spcca/cew-ai/operations-17-7-eng.htm>.

subject who is exhibiting active resistance, but only if the subject's behaviour poses a threat to officer or public safety.

With this understanding of the general use-of-force continuum, I turn now to an examination of the policies developed by the various law enforcement agencies in British Columbia respecting use of conducted energy weapons.

C. POLICIES ON USE OF CONDUCTED ENERGY WEAPONS

In the discussion that follows, I will frequently refer to the number of law enforcement agencies that have policies on specific issues, but will usually not identify them by name. I take this approach because my objective is not to conduct an audit of each agency's policies, but rather to identify more generally the issues that are dealt with (and the ones that are not), and the variations among law enforcement agencies on substantive policy issues.

For readers who wish a more detailed breakdown of each policing agency's policies, please refer to Appendix E.

1. Designation of conducted energy weapons

It is generally accepted that a conducted energy weapon is an intermediate weapon for the purposes of the National Use of Force Framework, although less than half the agencies explicitly state this policy.

Most agencies state that officers may use only those models of conducted energy weapons that are approved by the agency. Several agencies refer specifically to the TASER M26 and X26 models.

As I discussed in Part 4, the *Use of Force Regulation* is the principal authority in British Columbia respecting intermediate weapons. It deals with the approval of weapons as intermediate weapons, and with training, qualification, and re-qualification.

However, only two agencies refer specifically to the Regulation.

2. Training in the use of conducted energy weapons

Most agencies have provisions stating that proper training is required before an officer is allowed to use a conducted energy weapon. However, the policies do not specify the length or content of that training, except that one agency requires training on excited delirium and resuscitation of an unconscious subject.

Most agencies require that officers who have been qualified in the use of a conducted energy weapon be periodically re-certified. However, there is no consistency in the frequency of re-certification, which ranges between one and two years.

Only one policy requires that all conducted energy weapon training is to be conducted by an instructor certified on the specific device used.

Although some agencies require that a supervisor be notified when a conducted energy weapon is deployed, there is some ambiguity about whether notification must be before or after deployment. No agency specifies whether supervisors must be certified to use such weapons.

3. Wearing of a conducted energy weapon

Four agencies require that a conducted energy weapon be carried in a holster on the side opposite the firearm, while one agency requires that a conducted energy weapon be carried in the locked trunk of the police cruiser, when not carried by the officer.

Most agencies specify that an officer may carry a conducted energy weapon only when on duty.

Very few policies specify testing of a conducted energy weapon at the beginning of an officer's shift, such as conducting a spark test and inspecting the weapon to ensure that it is operating properly.

4. When a conducted energy weapon should not be used

In the 2005 Canadian Police Research Centre report, entitled *Review of Conducted Energy Devices*, the authors noted the variety and complexity of circumstances that may confront an officer, and concluded (at page 27):

It would be unwise and counter-productive for any police service or government body to develop policies and procedures that explicitly specify in what kinds of circumstances a CED [conducted energy device] may or may not be used.

Notwithstanding this caution, police agencies have taken varying approaches to “preclusions” (*i.e.*, those circumstances in which conducted energy weapons should not be used):

- Three agencies preclude use in a punitive, criminal, or coercive manner;
- One agency precludes use against children,⁶⁸ elderly persons, apparently pregnant women, physically disabled persons, and handcuffed prisoners (unless the prisoner is assaultive and cannot be otherwise controlled);
- Three agencies preclude use against a passively resistant subject;
- Several agencies preclude use when the subject is near flammable, volatile, or explosive materials;
- Several agencies preclude use when there is a potential for a serious fall; and
- Four agencies are silent as to circumstances in which deployment is prohibited.

5. Pre-deployment considerations

Two agencies require that, if reasonable, the officer notify a supervisor before using a conducted energy weapon, although they are ambiguous about whether the officer must also get the supervisor’s authorization.

Seven agencies require that a cover officer be present for officer safety before a conducted energy weapon is deployed.

68 U.N. Committee on the Rights of the Child, *Consideration of Reports Submitted by States Parties Under Article 44 of the Convention: Concluding Observations: United Kingdom of Great Britain and Northern Ireland*, UNOHCHROR, 49th Sess., UN Doc. CRC/C/GBR/CO/4, 1 at 7. See <http://www2.ohchr.org/english/bodies/crc/docs/AdvanceVersions/CRC.C.GBR.CO.4.pdf>.

Ten agencies suggest that the weapon first be shown to the subject (referred to as “force presence”), with the goal of obtaining compliance without actually using the weapon.

Several agencies require that a verbal warning (*e.g.*, “Police, stop or you will be hit with 50,000 volts of electricity”) be issued before the weapon is actually used (if tactically appropriate), and three agencies specify the content of a verbal warning. However, the BC Association of Chiefs of Police has recently endorsed the provincial use of force coordinator’s recommendation that this warning not be required.

Four agencies require that the officer with the conducted energy weapon give a verbal warning to other officers at the scene that the weapon is about to be discharged.

No agencies require that an ambulance with a defibrillator be summoned, either before or after a conducted energy weapon is deployed.

6. Deployment considerations

There are several aspects to deployment that should be considered. I will begin with the subject’s behaviour, and then consider the various types of deployment (*i.e.*, push-stun mode and probe mode), and the requirement to record the event on video.

a. Categories of subject behaviour

According to the RCMP’s current Incident Management/Intervention Model, an officer is authorized to use an intermediate weapon (which includes a conducted energy weapon) when a subject is exhibiting “active resistant” behaviour. However, its February 2009 policy amendment appears to have added an additional requirement that the subject’s behaviour poses “a threat to officer or public safety” (an exceptionally subjective standard, which I will discuss in more detail in Part 10).

In the case of municipal police forces, the National Use of Force Framework authorizes the use of intermediate weapons at that same level of “active resistant” subject behaviour but, as I noted earlier, this framework is not binding on police forces. Indeed, the framework states that it “is not intended to dictate policy to any agency.”

Thus, in the absence of any overarching provincial policy, it has been left to each municipal police department to decide the level of subject behaviour that justifies use of a conducted energy weapon.

Six agencies set the threshold at active resistance but, even within these six, there is some variation in the types of behaviour that constitute active resistance:

- One policy speaks of resisting an officer's lawful efforts to take the person into custody without attacking the officer.
- The transit police service recently increased its threshold from "non-compliant" to "active resistant" which, under both use-of-force models, includes pulling away or running away. However, the new policy specifically states that fleeing for non-payment of a transit fare does not justify use of a conducted energy weapon.

Other agencies do not refer specifically to an "active resistant" threshold, opting instead to use their own unique terminology for what threshold of subject behaviour is required, such as the following:

- Two agencies refer to a "combative or non-compliant individual who poses a risk of bodily harm to the public or the police."
- Two other agencies refer to subjects who "need to be immediately controlled," or subjects whom a member believes "will be actively aggressive/assaultive toward police or others."
- Five agencies also specify higher risk behaviour that warrants conducted energy weapon use—"more dangerous or assaultive behaviour that threatens the safety of the subject, the public or officers."
- One policy states that a conducted energy weapon may be used "by an officer who has reasonable and probable grounds to believe that a dangerous or violent subject, who is a danger to himself or others, requires immediate control."
- One policy requires that three conditions be met:
 - The subject is a danger to himself, herself, or others, or will be resistant towards police officers;
 - The subject needs to be immediately controlled; and
 - Lesser force options are ineffective or inappropriate in the circumstances.

PART 5: BRITISH COLUMBIA POLICE DEPARTMENTS' POLICIES
ON CONDUCTED ENERGY WEAPON USE

- One policy states very generally that the department “supports the use of intermediate weapons by members who are qualified and/or certified to use them when lower levels of force ... have been ineffective and/or inappropriate, and the use of higher levels of force ... may not be justified and/or appropriate.”
- One policy begins with the general instruction that officers shall consider using a conducted energy weapon as a use-of-force option “in situations involving violent individual(s) who pose a threat to the officer(s) and/or to the public,” but then gives a more specific instruction:

CEWs may only be used on those subjects whom an officer has reasonable grounds to believe are a danger to themselves or others and need to be immediately controlled. CEWs may also be used if the officer reasonably believes the subject will be actively resistant/assaultive toward police or others, or poses a threat to the officer or others, of serious bodily injury or death.
- One policy states that a conducted energy weapon “shall only be used on subjects where it is necessary to effect the apprehension of a person whom the member reasonably believes is dangerous to themselves or others, and the subject needs to be controlled and the member is satisfied that a lesser means or force would not gain control over the subject in a safe manner.”
- One policy states that conducted energy weapon technology “is an effective option for incapacitating individuals demonstrating aggressive/assaultive behaviour, under the influence of drugs or alcohol, injurious to themselves or being destructive.” The weapon may be deployed in tactical operations, in a cell entry and extraction, in response to an escape or escape attempt, or for external prowl in a secure outside yard. It may also be used, as approved by the warden, “when intervention is required to prevent self-harm, compel compliance, terminate violent and destructive behaviour, protect safety of staff and inmates, and when less use of force is inappropriate or unreasonable.”⁶⁹

When discussing conducted energy weapons, some policies also refer to the highest level of subject behaviour (grievous bodily harm or death), when use of lethal force is authorized. They do not suggest that a conducted energy weapon can be used only when this threshold has been reached, but focus instead on whether it is appropriate for an officer to use a conducted energy weapon in such circumstances:

⁶⁹ As will become clear in Part 6 (Training), the policies described in this part do not seem to have been carried through into training materials—the latter are often inconsistent with the agency’s policies.

- Six agencies state that at no time shall a conducted energy weapon be a replacement for a firearm in a deadly force encounter.
- Three agencies state that conducted energy weapons are not an alternative to lethal force, but rather can be used in conjunction with lethal force where reasonable and appropriate to do so.

At the Commission's public forum, the BC Association of Chiefs of Police expressed the view that a conducted energy weapon is not an appropriate force option when an officer is attempting to stop a violent subject who is actively causing, or anticipated to cause, grievous bodily harm or death. However, it may be appropriate to use conducted energy weapons in high-risk scenarios, but only where there is time, distance, cover (lethal overwatch), and an absence of imminent jeopardy.⁷⁰

Only a few policies comment on whether it is appropriate to use a conducted energy weapon to prevent a subject from committing suicide or other acts of self-harm.

Several agencies address the issue of the subject's medical condition. Four agencies identify "excited delirium" as a relevant medical condition. Until recently the RCMP policy stated that individuals experiencing excited delirium require medical treatment, which first requires that they be restrained. It added that in considering intervention options for excited delirium cases, the use of a conducted energy weapon in a probe-mode deployment may be the most effective response to establish control. That policy has now been replaced with the following:

Acutely agitated or delirious persons may be at a high risk of death. If an individual is in an acutely agitated or delirious state, and whenever possible when responding to reports of violent individuals, request the assistance of emergency medical services. If possible bring medical assistance to the scene.

Another agency's policy states that the ambulance service should be called as soon as possible in the case of excited delirium or psychosis, and consideration must be given to containing the individual but delaying intervention until the ambulance service is on the scene.

⁷⁰ Lethal overwatch refers to the practice in which one officer deploys a conducted energy weapon at the subject while another officer is pointing his or her firearm at the subject.

b. Types of deployment

There are several ways in which a conducted energy weapon may be deployed. The subject may be warned that it may be used, it may be drawn from the holster and pointed at the subject, or it may be pointed with a spark test and/or with targeting the laser light on the subject's body ("force presence"). If the cartridge is not attached, it may be pressed against the subject's skin, and the electrodes in the nose of the weapon send an electrical current into the subject's body ("push-stun mode"). With the cartridge attached, the officer may deploy the two barbed darts, which imbed in the subject's clothing or skin ("probe mode"). Finally, after the weapon has been used in probe mode, the officer may use it in push-stun mode, because of the two electrodes in the leading edge of the spent cartridge.

Several agencies refer to "force presence" as an option available to an officer.

Two agencies state that in the face of active resistance, the officer may only use the conducted energy weapon in push-stun mode. However, when an officer is confronted, or reasonably believes that they will be confronted, by a subject who is offering assaultive resistance, or poses a threat of serious bodily injury or death to themselves, the police, or to others, an officer may use the CEW in either the push-stun mode or probe mode.

When used in push-stun mode, a conducted energy weapon will transmit an electrical current for an initial cycle of five seconds, which can be repeated by depressing the trigger again after completion of the previous cycle. Four agencies state that continuous applications for periods exceeding 15 to 20 seconds may pose an increased risk to the subject, while three agencies state that a second discharge should last only five seconds. Only one agency acknowledges that continuous discharge may be hazardous to the subject, and cautions that unless situational factors require it, continuous discharge should not be applied. One agency specifies that push-stun mode may be used in a second discharge.

When used in probe mode, the initial electrical current of five seconds can be repeated any number of times by repeatedly pulling the trigger after completion of the previous cycle. Five agencies require a situational reassessment after the failure of a first (or second) discharge. Seven agencies state that a second discharge may be appropriate if the first discharge does not control the subject. No agency specifies a maximum number of discharges. One agency states that if the subject has not been controlled after two discharges, the officer should consider that the weapon is ineffective, and consider another appropriate force option to gain control.

Only one agency acknowledges that multiple discharges may be hazardous to the subject, and cautions that unless situational factors require it, multiple discharges should not be applied.

One agency recommends that the probes be aimed at large muscle groups, the pelvic girdle, and nerve endings. Two agencies mandate that the laser sight not be centred higher than the subject's mid-chest. Three agencies prohibit aiming probes at sensitive body parts such as the head, neck, face, or genitalia.

Four agencies recommend that a subject be restrained while the conducted energy weapon is activated.

c. Use of the weapon-mounted camera to record discharge

The TASER X26 model is available with an optional video and audio recorder. Only one agency (the provincial Corrections Branch) requires that a video record be made of the deployment of the conducted energy weapon. However, rather than relying on the weapon's built-in video camera, the branch requires that every deployment be videotaped on a hand-held video recorder, and it also relies on wall-mounted closed-circuit video cameras.

7. Post-deployment considerations

Ten agencies require that a supervisor be notified to attend at the scene, for various purposes, after a conducted energy weapon has been deployed. For example, one

agency specifies that the supervisor's duties include ensuring that the subject receives proper medical care, photographing the scene and any injuries, and confirming a data download to the training officer.

Nine agencies require that the subject be handcuffed after use of a conducted energy weapon. Eleven agencies require that the officer advise the subject that a conducted energy weapon has been used on them, and that the effects are temporary. Five agencies require photos or video documentation of a subject's injuries attributable to a conducted energy weapon.

With respect to medical assistance, one agency requires that the subject not be left in the prone position, while two others require that the subject be placed in the recovery position.⁷¹ Five agencies mandate that officers must continuously monitor the subject's medical condition after use of a conducted energy weapon.

Six agencies require that an ambulance be called after every deployment, regardless of the nature of injuries. Four agencies require that an ambulance be called only if the officer believes it is necessary. One agency requires that an ambulance be called only if the subject requests one. Four policies require that the officer advise paramedics that a conducted energy weapon was used on the subject.

One agency requires medical treatment when a probe penetrates an eye, genital, or breast. Two agencies require medical intervention when the subject exhibits prolonged paralysis, loss of consciousness, seizure, or any other indications of medical concern. One agency requires medical intervention when a subject is injured due to a post-discharge fall.

Ten agencies require medical assistance for barb removal, but:

- Six agencies allow an officer to remove a probe from clothing;
- Three agencies allow an officer trained in first aid or probe removal to remove a probe; and

⁷¹ In its February 2009 policy amendments, the RCMP deleted the direction that the subject should be removed from the prone position as soon as possible after control had been established.

- One agency requires that, if an officer removes a probe, it be done in the manner that least interferes with the subject's privacy and dignity.

Two agencies mandate that paramedics decide whether a subject should be transported to hospital. Two agencies specify how the subject will be transported, and the circumstances in which an officer should accompany the subject in the ambulance.

Eight agencies require that the incident scene be preserved as a major crime scene if the subject has been injured, and one of these agencies requires that a forensic identification squad attend the scene.

Seven agencies require that relevant paraphernalia be seized if the subject has been injured, and three agencies require that the conducted energy weapon and spent cartridge be preserved as an exhibit.

8. Reporting on conducted energy weapon use

All agencies require that a use-of-force or analogous written report be completed after a conducted energy weapon has been deployed, but:

- The format of the report varies; and
- Only six specify that "deployment" includes force presence as well as discharge.

Three agencies specify the narrative content of use-of-force reports, requiring such elements as reasons for contact, environmental conditions, and subject behaviour. Six agencies require that the data be downloaded from the weapon and attached to the use-of-force report.

Almost all agencies require that a completed use-of-force report be submitted to a supervisor, but they are not consistent on what the supervisor does with the reports. Five agencies require that the "Subject Behaviour-Officer Response" template report in PRIME be completed.⁷²

⁷² PRIME-BC is the Police Records Information Management Environment, an electronic records management system that links all police department information across the province.

Only one municipal police force requires that the firearms officer maintain a software program detailing all operational deployments of conducted energy weapons. During the Commission's public forums, the RCMP advised me that it is developing a national reporting database.

Six agencies specify the circumstances warranting a review of general use-of-force reports. Seven agencies specify the purpose of a review, when a review of an incident does occur (*e.g.*, adherence to departmental use-of-force policy, evaluation of that policy, evaluation of training protocols, etc.).

9. Administration

Six agencies require that a record of all conducted energy weapon assignments to officers be maintained, to account for all weapons. Eight agencies require that, when a weapon is assigned to an officer, the officer test the operation of the weapon using the spark test. One agency issues conducted energy weapon inspection protocols when weapons are assigned to officers, requiring them to examine the cartridge for cracks or damage, and to inspect the holster regularly.

Most agencies require that a conducted energy weapon be stored in a secure room or equipment office.

Only two agencies contain very specific protocols on conducted energy weapon maintenance, especially battery and component replacement. The timing of maintenance inspection, if required, varies among agencies. Only two agencies require inspection after a conducted energy weapon has been discharged. One agency requires that defective weapons be brought to the attention of a supervisor.

Only one agency requires data downloading annually, and specifies the officer responsible for this task. Six agencies require that data be downloaded from a conducted energy weapon after it has been discharged, and that the data be attached to the use-of-force report. Only one agency requires a data download from a malfunctioning weapon.

Only one agency (the RCMP) requires independent testing of an ineffective or malfunctioning conducted energy weapon, or after an incident involving injury requiring medical treatment or death proximal to use of the weapon. No other agencies have policies respecting weapon calibration or testing of output, although in late 2008, the Minister of Public Safety and Solicitor General announced that municipal police departments had agreed to research and establish a standard for regular calibration of all conducted energy weapons used in the province, and that the RCMP had also been asked to comply.

With respect to voluntary exposure to a conducted energy weapon's electrical current, the RCMP has a policy that voluntary exposure is limited to RCMP candidates participating in weapon training; the public is completely precluded from voluntary exposure. The Corrections Branch's policy prohibits voluntary exposure during training.

D. CONCLUSIONS

From this review, I have reached several conclusions.

First, there is a troubling lack of consistency in the provincial law enforcement agencies' policies respecting conducted energy weapon use. This has occurred, in my view, because of a lack of leadership at the provincial level in developing province-wide standards for all aspects of conducted energy weapon use, with the result that each agency has had to develop its own policy.

This inconsistency is most acute in each agency's articulation of when conducted energy weapon use is authorized. While "active resistance" would appear to be the industry standard, the wide variation in language used appears to set somewhat different thresholds.

As I stated in Part 4 of this Report, it is in my view the responsibility of the provincial government to set policy for such important issues as conducted energy weapon use. I am satisfied that ss. 40 and 74 of the *Police Act* grant adequate authority for the

province to set province-wide standards on this issue. While interested parties, including the policing community, have a legitimate role to play in the development of such policy, the ultimate responsibility rests with civilian authority.

Second, the manner in which the current policies are drafted creates several problems:

- They are incomplete. The policies of all law enforcement agencies, when viewed collectively, identify virtually all the issues that should be covered in policy, but no one agency's policy comes close to doing so.
- They fail to differentiate between what matters should be addressed in policy, and what matters should be assigned to training. For example, it is inappropriate for a policy to leave it up to trainers to determine the circumstances in which a conducted energy weapon may be used, but policies need not dwell on detailed procedures such as what steps an officer should carry out at the beginning of each shift.
- There are many instances of poor drafting. While it is not my intent to criticize those who drafted these policies, it is not surprising that these policies are uneven, inconsistent, and incomplete when each law enforcement agency has been left to fend for itself. For example, several policies preclude use of conducted energy weapons against elderly people or apparently pregnant women, without specifying what to do if such a person has a weapon.

**PART 5: BRITISH COLUMBIA POLICE DEPARTMENTS' POLICIES
ON CONDUCTED ENERGY WEAPON USE**

Part 6

Training on Conducted Energy Weapon Use

PART 6: TRAINING ON CONDUCTED ENERGY WEAPON USE

PART 6: TRAINING ON CONDUCTED ENERGY WEAPON USE

A.	INTRODUCTION	123
B.	TRAINING MATERIALS	123
1.	TASER International, Inc.....	123
2.	Law enforcement agencies in British Columbia.....	123
C.	ASPECTS OF TRAINING	125
1.	Qualifications to train as an instructor or operator.....	125
2.	Duration and content of the conducted energy weapon training programs....	125
3.	Wearing a conducted energy weapon	127
4.	When a conducted energy weapon should not be used	127
5.	Use of a conducted energy weapon on a person with a medical condition	128
6.	Pre-deployment considerations	130
7.	Deployment considerations	131
a.	<i>Categories of subject behaviour</i>	131
b.	<i>As an alternative to lethal force</i>	132
c.	<i>Push-stun mode and probe mode deployments</i>	133
d.	<i>Aiming for particular parts of the subject's body</i>	133
e.	<i>Cuffing under power</i>	134
f.	<i>Over-dependence on a conducted energy weapon</i>	134
8.	Multiple or prolonged deployments.....	135
a.	<i>Push-stun mode</i>	135
b.	<i>Probe mode</i>	135
9.	Post-deployment considerations	136
10.	Excited delirium	136
11.	Voluntary exposure.....	139
D.	CONCLUSIONS.....	141

A. INTRODUCTION

In this part, I will examine the conducted energy weapon training materials developed by the manufacturer (TASER International, Inc.), by the 11 municipal police departments and the RCMP, and by the other law enforcement agencies in British Columbia (Transit Authority Police, the two tribal police services, the provincial Corrections Branch, and the provincial Sheriff Services Division).

Most of this discussion is based on a research paper and comparative training matrix prepared by one of the Commission's researchers. A more detailed breakdown of each policing agency's training is set out in Appendix F.

B. TRAINING MATERIALS

1. TASER International, Inc.

The manufacturer publishes training materials for the use of its conducted energy weapons. The most recent release is Version 14.0, published in October 2007.⁷³ It consists of a 265-slide PowerPoint presentation, as well as a DVD of video clips, many of which are real-life scenarios in which conducted energy weapons were deployed by law enforcement and corrections agencies.

2. Law enforcement agencies in British Columbia

The Justice Institute's Police Academy in New Westminster provides recruit training for all municipal police departments and other justice-related agencies, such as the Corrections Branch and Sheriff Services Division. Until recently the Police Academy trained all police recruits in the use of conducted energy weapons using course materials developed by the manufacturer, which ensured province-wide consistency.

⁷³ TASER International, Inc. User Certification Course *TASER X26 and TASER M26 Electronic Control Devices—PowerPoint materials, Version 14.0.

However, in 2006, the Vancouver Police Department decided that it did not want all its recruits trained in conducted energy weapon use. Rather, it wished to hand-select officers for training, to better control who was using conducted energy weapons.

Given that approximately half of all municipal police recruits come from the Vancouver Police Department, the Police Academy decided to withdraw from the training of police recruits in conducted energy weapon use, with the result that responsibility for this aspect of recruit training has devolved to individual municipal police departments, regardless of a particular department's size or training expertise. The Police Academy continues to provide conducted energy weapon training for the Sheriff Services Division and the Corrections Branch.⁷⁴

Given this devolution of training, Commission staff obtained from all BC law enforcement agencies copies of their conducted energy weapon training materials. These *training* materials are to be distinguished from the *policy* materials discussed in Part 5.

Ten of these agencies (seven municipal police departments and three other law enforcement agencies) rely exclusively on the manufacturer's training materials. Five of them rely on the most recent Version 14.0, while the other five agencies rely on earlier versions, going as far back as Version 11.0, published in January 2004. Several other municipal police departments use some of the manufacturer's images and slides, but base their training on Course Training Standards developed by Constable Mike Massine, the Victoria Police Department's Control Tactics/Use of Force Coordinator.

Since two-thirds of all law enforcement agencies in British Columbia rely exclusively on the manufacturer's training materials, I will in most instances refer first to how the manufacturer deals with an issue, and then refer to the agencies' training materials, to show where they add to, or depart from, the manufacturer's materials.

74 The Justice Institute does continue to include a two-hour "restraining under power" course in its police recruit training for all municipal police departments. It is designed to encourage restraint during the initial conducted energy weapon deployment, to avoid multiple deployments against one subject. This training does not address how to use a conducted energy weapon, but what to do with a subject who has been exposed to a deployment.

C. ASPECTS OF TRAINING

1. Qualifications to train as an instructor or operator

The manufacturer offers a master instructor course, designed to train police officers so that they can in turn train instructors within their own agency. Those instructors will then train line officers as operators, who use conducted energy weapons on the street.

In BC, most agencies' training materials recognize the manufacturer's master instructor course, and authorize graduates of that program to certify other officers as instructors, who in turn will train officers as operators of conducted energy weapons.

There is some variation among agencies respecting qualifications to train in the use of conducted energy weapons. For example:

- *Master instructor*—eight agencies require five years' experience as a sworn officer and/or military service, two years' experience as an instructor with a minimum of 12 operator courses taught.
- *Instructor*—one agency requires candidates to take approved training courses in instructional techniques, and to spend one to two years in an apprenticeship/mentoring relationship.
- *Operators*—most agencies do not specify prerequisites. However, one agency requires candidates to be currently certified in first aid, and to be certified in the use of the police defensive baton, pepper spray, carotid control technique, and service pistol. Another agency requires that an officer be competent with basic force option skills as demonstrated in the field.

2. Duration and content of the conducted energy weapon training programs

There is considerable variation among agencies respecting the duration of training and re-certification programs:

- *Instructor*—one agency requires 14 hours; five other agencies require 16 hours; and another agency requires 32 hours.

- *Operator*—one agency requires four hours; one agency requires five hours; six agencies require six hours; one agency requires seven hours; two agencies require eight hours; and another agency requires 16 hours.
- *Re-certification*—eight agencies require that instructors and master instructors be re-certified every two years. Nine agencies require that operators be re-certified annually, while one requires re-certification every two years.

There is similar variation in the student to instructor ratio, with three agencies specifying a maximum of 4:1, 8:1, and 20:1. The training materials of all other agencies are silent.

Eleven agencies require scenario- or reality-based training as a component of operator certification, although only one agency specifies that all scenario-based training must be conducted with live simulation air cartridges. One other agency requires that students go through two scenarios, one as an operator and the other as a backup. The training materials of eight agencies state that simulator training (*i.e.*, scenario-based training without live-fire exercises) is a valuable and effective supplemental training tool, but is not a substitute for live-fire exercises required for initial and annual certifications.

Most agencies require a written examination at the end of the operator course, although the passing grade varies between 70 percent (one agency) and 80 percent (nine agencies). With respect to the instructor course, six agencies require a written examination and a score of at least 90 percent.

Six agencies evaluate scenario training based on whether the proper approach was used, taking into account cover, distance, and scanning tactics; whether there was communication between the officers and with the subject before, during, and after the incident; whether there was appropriate force used including de-escalation tactics; and whether a pre-deployment verbal warning was used.

Only four agencies address course failure and remedial training, but even here the standards vary. For example:

- One agency allows three attempts to carry out a task successfully;

- One agency fails members who do not pass the written examination, or who demonstrate confused or poor decision-making during scenario training; and
- One agency allows one re-test for the practical portion of the course, but failure of the written component requires the member to repeat the operator course.

3. Wearing a conducted energy weapon

The manufacturer's training materials include a discussion of the advantages and disadvantages of carrying a conducted energy weapon on the firearm side of the body, but conclude with the statement that users should "refer to your department's tactical experts to make your own policy on how to carry, holster, and deploy" the weapon.⁷⁵

Only four agencies specify in policy that a conducted energy weapon must be carried in the holster on the opposite side from the firearm.

4. When a conducted energy weapon should not be used

The manufacturer cautions against using a conducted energy weapon against pregnant women whenever practicable (because they "are at elevated risks from falling, muscle contractions, stress and other factors"⁷⁶), and against the obviously frail or infirm.

Twelve agencies have adopted similar cautions in their training materials, with several adding an additional category—the very young. Several agencies train that conducted energy weapons should be used against these vulnerable groups only as an alternative to lethal force.

The manufacturer's training materials cite three external "increased deployment risk" situations, which are echoed in many agencies' materials. They are:

1. Deploying a conducted energy weapon against a person in an elevated position, because of the increased risk of fall injuries (12 agencies).

⁷⁵ *Ibid.*, footnote 73, slide 137.

⁷⁶ *Ibid.*, slide 38.

2. Deploying a conducted energy weapon against a person in or near a flammable or explosive material, because of the risk that the material may ignite (12 agencies).
3. Deploying a conducted energy weapon against a person who is in water, because of the risk that the person may, when incapacitated, submerge and drown (nine agencies).

The manufacturer also recognizes an increased risk when a conducted energy weapon is deployed against someone who is running or who is operating a vehicle or machinery. These cautions are reflected in the training materials of nine agencies.

Neither the manufacturer nor police agencies restrict the use of conducted energy weapons to offences of a specified seriousness. In our public forums, Cst. Hammell of the Vancouver Police Department stated:⁷⁷

- Q You've got a subject who's standing holding on to something; does it matter whether you're attempting to arrest them for a *Liquor Act* violation or shoplifting or something more serious like bank robbery or murder?
- A It does not matter. Our purpose for using it would be based on the behaviour of our subject, for whatever reason we are apprehending them or arresting them.
- Q Regardless of the underlying offence?
- A Yes.

Another agency told the Commission that proportionality concerns are included in the “situational factors” section of its use-of-force continuum, and it may be that other agencies also address this issue as part of the officer’s broad “situational” or “contextual” evaluation.

5. Use of a conducted energy weapon on a person with a medical condition

The manufacturer’s training materials state that “modern pacemakers and implanted cardiac defibrillators withstand external electrical defibrillators at least 800 times stronger than the TASER conducted energy pulses” and “published peer-reviewed

⁷⁷ Transcript, May 8, 2008, p. 51. However, Deputy Chief Constable Bob Rich of the Vancouver Police Department told me that he would be “horrified” if an officer used a conducted energy weapon on a jaywalker who was walking away from an officer, even though walking away is included in the definition of active resistance: Transcript, May 14, 2008, p. 41.

research shows that there is no negative effect of the TASER device when used on a subject with an implanted device.”⁷⁸

The 10 agencies that rely exclusively on the manufacturer’s training materials include this information. The training material of two other agencies advises that there are medical opinions that the output of a conducted energy weapon exceeds the medical threshold required to cause seizure.

The manufacturer’s training materials also state that cocaine makes the heart *less* susceptible to electrically induced fibrillation; this information is included in nine agencies’ training materials. One agency also trains that the conducted energy weapon is safe and effective for suspects under the influence of drugs or alcohol.

The manufacturer states that its devices have been successfully used to incapacitate subjects under a variety of chemical and mental influences (including suicidal subjects and emotionally disturbed persons) because it affects the sensory and motor functions of the nervous system. It specifically addresses “excited delirium” (within the context of sudden unexpected deaths) which it defines as “a state of extreme mental and physiological excitement, characterized by extreme agitation, hyperthermia, hostility, exceptional strength, and endurance without apparent fatigue.”⁷⁹ It lists numerous behaviours that may require immediate medical assistance due to pre-existing conditions, possible overdose, cocaine psychosis, or excited delirium:

- bizarre or violent behaviour;
- signs of overheating or profuse sweating;
- disrobing;
- violence toward or attacking glass, lights, and reflective surfaces;
- superhuman strength and endurance;
- imperviousness to pain—self-mutilation;
- disturbances in breathing patterns or loss of consciousness; and
- complaints of respiratory difficulty.

⁷⁸ Footnote 73, *supra*, slides 30 and 31.

⁷⁹ *Ibid.*, slide 219.

The manufacturer implicitly supports use of its conducted energy weapons in such circumstances, adding the caution that the operator should “consider having [emergency medical services] standing by.”⁸⁰

6. Pre-deployment considerations

The manufacturer’s training materials advise operators to consider cover and distance tactics, and to “consider having lethal cover or other reasonable and appropriate force options available when practicable.”⁸¹ “Lethal cover” or “lethal force overwatch” refers to the practice of a second officer pointing his or her firearm at the subject while the conducted energy weapon is deployed, as a backup in the event that the conducted energy weapon is not effective at incapacitating the subject. Two agencies state that officers should always take advantage of cover and distance when a conducted energy weapon is used.

The manufacturer also trains that when practicable, there should be at least one backup officer present, in order to handcuff the subject while the conducted energy weapon is being used.

The manufacturer recommends using verbal commands in order to gain compliance (if practicable), sometimes accompanied by display of the weapon. It adds, “Some agency policies allow the officer to use ... the laser to ‘paint the target’ to attempt to gain compliance.”⁸² This refers to the operator activating the conducted energy weapon and pointing the weapon at the subject so that the built-in red laser light that is designed to assist the operator in aiming the weapon shines on the subject’s torso.

Operators are also trained to remove the cartridge and perform a spark test (*i.e.*, pulling the trigger so that a spark jumps between the two electrodes in the nose of the weapon), although several agencies train officers to do so only if another conducted energy weapon is present or the subject is contained.

⁸⁰ *Ibid.*, slide 218.

⁸¹ *Ibid.*, slide 158.

⁸² *Ibid.*, slide 155.

7. Deployment considerations

a. Categories of subject behaviour

As discussed in Part 5 of this Report, one of the crucial issues in conducted energy weapons policy is articulating what level of resistance from a subject must be present before deployment of the weapon is warranted. The manufacturer recognizes that each jurisdiction is responsible for this important issue:

Each agency is responsible for creating their own use-of-force policy and determining how TASER devices fit into their use-of-force matrix based on legal and community standards.

Make sure your agency has a use-of-force policy that addresses TASER device use and that this policy is clearly addressed during end-user training.⁸³

In British Columbia, a conducted energy weapon is an “intermediate weapon.” According to the RCMP’s Incident Management/Intervention Model (IM/IM), which is binding on all its officers, an intermediate weapon may be deployed when a subject’s behaviour constitutes “active resistance,” which is defined as follows:

The person demonstrates resistance to control by the police officer through behaviours such as pulling away, pushing away or running away. This can include a situation where a police officer activates a police vehicle’s emergency equipment and the suspect fails to stop and attempts to evade apprehension by driving evasively.

During our public forums, Cpl. Gillis told me that active resistance also includes activities that involve exhibiting energy (like tensing up muscles) or turtling (holding one’s arms underneath the body while on the ground). RCMP officers are trained in accordance with this policy.

However, as noted earlier, a February 2009 RCMP policy amendment now requires that the subject’s behaviour also pose a threat to officer or public safety.

There is more variation in the training of municipal police officers and other provincially regulated law enforcement agencies for several reasons, including the fact

⁸³ *Ibid.*, slide 135.

that each agency is responsible for developing its own training materials and, unlike the RCMP's Incident Management/Intervention Model, the National Use of Force Framework is not binding on any particular law enforcement agency.

While most provincially regulated agencies train their officers to use conducted energy weapons when a subject exhibits active resistance:

- Most agencies' training materials do not describe what actions constitute active resistance.
- Those agencies that do adopt the definition of active resistance contained in the National Use of Force Framework⁸⁴ often add their own unique gloss:
 - One agency trains that active resistance includes subjects who are not complying with verbal commands and subjects who are non-compliant (*i.e.*, they pull away, twist and turn, resist control, "turtle" on the ground, etc.). It supports the use of a conducted energy weapon when lower levels of force are ineffective and/or inappropriate.
 - Two agencies include in their definition a subject resisting an officer's lawful efforts to take them into custody without attacking the officer.
 - One agency includes pulling arms away from controlling officers, running away, holding onto fixed objects, bracing themselves in doorways, or "turtling" by pulling their arms into the chest area resisting attempts to straighten the arms.
- One agency recently elevated the threshold to situations in which the subject is behaving in a combative manner or poses a risk of death or grievous bodily harm to the police or the public.

b. As an alternative to lethal force

The manufacturer's training materials state that its conducted energy weapon "is not a substitute for lethal force"⁸⁵ and most agencies train accordingly. Under the National Use of Force Framework and the RCMP's Incident Management/Intervention Model, lethal force is justified when the subject exhibits actions that the officer

⁸⁴ "The subject uses non-assaultive physical action to resist, or while resisting an officer's lawful direction. Examples would include pulling away to prevent or escape control, or overt movements such as walking toward, or away from an officer. Running away is another example of active resistance."

⁸⁵ Footnote 73, *supra*, slide 185.

reasonably believes are intended or likely to cause grievous bodily harm or death to any person. Thus, this training proposition would preclude use of a conducted energy weapon in such circumstances.

However, the situation in British Columbia is not quite so clear:

- One agency trains that a conducted energy weapon can be used in conjunction with deadly force where appropriate and reasonable to do so, without articulating “appropriate and reasonable” circumstances.
- The position of the BC Association of Chiefs of Police is that the conducted energy weapon is not an appropriate force option when an officer is attempting to stop a violent subject who is actively causing, or anticipating to cause, bodily harm or death, unless there is a second officer present providing “lethal overwatch,” and where time, distance, and an absence of imminent jeopardy exists.

c. Push-stun mode and probe mode deployments

As discussed earlier in this Report, use of a conducted energy weapon in push-stun mode is designed primarily to achieve pain compliance, while use in probe mode is designed to achieve compliance through incapacitation. Three agencies train that active resistance is required in order to use the weapon in push-stun mode, and that assaultive or combative behaviour is required to use it in probe mode. Other agencies either do not make this distinction, or train that the weapon may be used in either mode when active resistance is exhibited.

d. Aiming for particular parts of the subject’s body

The manufacturer’s training materials offer instruction on the parts of the subject’s body against which the conducted energy weapon should be deployed, which vary depending on the mode of deployment:

- *Push-stun mode*—the primary target areas should be the brachial plexus tie-in (upper chest), the radial (forearm), the common peroneal (outside of thigh), and the tibial (calf muscle). Secondary target areas include the carotid (sides of neck) and the pelvic triangle. It should not be deployed in the throat area. The manufacturer includes a warning:

Use care when applying drive stun to neck or groin. These areas are sensitive to mechanical injury (such as crushing to the trachea or

testicles if applied forcefully). However, these areas have proven highly effective targets. These areas should only be targeted when officers are defending themselves from violent attacks. Refer to your department's policy regarding drive stuns in these and other sensitive areas.⁸⁶

- *Probe mode*—if practicable, the probes should be deployed against the subject's back for several reasons:
 - Clothing fits tighter, so the probes are more likely to penetrate the skin;
 - The surprise factor;
 - The back has stronger muscles, so the neuromuscular incapacitation will be even more overwhelming; and
 - It avoids injuries associated with hitting sensitive areas such as the head, face, throat, and genitals.⁸⁷

e. Cuffing under power

The manufacturer trains that each five-second cycle of the conducted energy weapon is a “window of opportunity”⁸⁸ to attempt to establish control and restraint while the subject is incapacitated. Thus, officers should move in and handcuff the subject during the cycle, when it is reasonably safe to do so. This practice may preclude the need for multiple cycles of the weapon.

f. Over-dependence on a conducted energy weapon

The manufacturer's training materials include the caution: “Avoid TASER over-dependence,”⁸⁹ adding:

Some agencies have had so much success with TASER devices that officers sometimes neglect proper procedures and other force options. This is a training issue that must be addressed in all instructor and user courses and should also be emphasized in ongoing department training.

⁸⁶ *Ibid.*, slide 206.

⁸⁷ *Ibid.*, slide 53.

⁸⁸ *Ibid.*, slide 164.

⁸⁹ *Ibid.*, slide 158.

8. Multiple or prolonged deployments

a. Push-stun mode

The manufacturer's training materials provide that if deployment of the conducted energy weapon in push-stun mode is not effective, the user should evaluate the location selected, consider an additional cycle to a different pressure point, or consider alternative force options.⁹⁰

b. Probe mode

With respect to probe mode deployments, the manufacturer's training materials are more detailed. They acknowledge that the application of a conducted energy weapon is a physically stressful event, and officers should avoid extended or repeated applications where practicable. If circumstances require extended duration or repeated discharges, the operator should take care to observe the subject and provide breaks in the weapon stimulation when practicable. Officers should apply only the number of cycles reasonably necessary to allow them to safely restrain the subject. In a products warning document, the manufacturer states:

Continuous Exposure Risks. When practical, avoid prolonged or continuous exposure(s) to the TASER device's electrical discharge. In some circumstances, in susceptible people, it is conceivable that the stress and exertion of extensive repeated, prolonged, or continuous application(s) of the TASER device may contribute to cumulative exhaustion, stress, and associated medical risk(s).

With respect to whether application of the weapon affects the subject's breathing, the manufacturer's training materials may reflect a change in opinion. On one hand, the current PowerPoint presentation states, "Current human studies have concluded that TASER applications directly across the chest do not impair normal breathing patterns."⁹¹ However, in a 2005 Training Bulletin⁹² the manufacturer stated:

⁹⁰ *Ibid.*, slide 204.

⁹¹ *Ibid.*, slide 166.

⁹² TASER International, Inc., Training Bulletin 12.0-04.

Repeated, prolonged, and/or continuous exposure(s) to the TASER electrical discharge may impair breathing and respiration, particularly when the probes are placed across the chest or diaphragm. Users should avoid prolonged, extended, uninterrupted discharges or extensive multiple discharges whenever practicable in order to minimize the potential for over-exertion of the subject or potential impairment of full ability to breathe over a protracted time period.

These differing opinions are reflected in police agencies' training materials. Six train that there are no adverse effects on heart function or respiration deriving from multiple or prolonged deployments, while five agencies train that extended duration applications may cause sufficient muscle contractions to impair normal breathing patterns.

No agency imposes an absolute cap on the number of cycles permitted, although ten agencies train that an officer should apply only the number of cycles reasonably necessary to allow them to safely approach and restrain the subject. Several agencies train that if a third cycle is required, officers should consider another force option.

9. Post-deployment considerations

The manufacturer's training materials state that officers should evaluate the need for medical attention as they would with any other use-of-force incident, as directed by agency policy. A majority of agencies apply this general advice, although three agencies make medical examination by emergency health services personnel (*i.e.*, ambulance) mandatory, regardless of the mode of deployment.

The manufacturer leaves it up to each agency to establish its own policy on probe removal. One agency trains that only a qualified medical doctor may remove probes that are imbedded in the subject's skin, while another agency authorizes an officer certified in first aid to remove probes.

10. Excited delirium

The manufacturer's training materials acknowledge the incidence of sudden unexpected death arising out of circumstances in which a conducted energy weapon

was used—a phenomenon sometimes described as “death proximate to TASER use.” In such cases, there is considerable controversy around whether it can be established that the conducted energy weapon caused, or contributed to, the death. The materials identify eight common factors of sudden death (observing that the events leading to death are frequently set in motion hours, days, or even weeks before the police are called):⁹³

- chronic/toxic drug use;
- pre-existing heart conditions;
- obesity and poor cardiovascular condition;
- diabetes and other pre-existing diseases;
- protracted physical struggle;
- exhaustive mania/metabolic acidosis;
- agitated/excited delirium; and
- positional/restraint/compressive asphyxia.

The materials then discuss warning signs of sudden unexpected death, stating:

Should one or more of the following behaviors manifest, the suspect may require immediate medical assistance due to pre-existing conditions, possible overdose, cocaine psychosis, excited delirium, etc. Consider having EMS standing by when the subject exhibits:

- bizarre or violent behavior;
- signs of overheating/profuse sweating;
- disrobing;
- violence toward/attacking glass, lights, and reflective surfaces;
- superhuman strength and endurance;
- imperviousness to pain—self-mutilation;
- disturbances in breathing patterns or loss of consciousness; and
- complaints of respiratory difficulty.⁹⁴

⁹³ Footnote 73, *supra*, slide 217.

⁹⁴ *Ibid.*, slide 218.

These materials refer to “excited delirium” (which they also describe as “in-custody death syndrome”) as one of the eight sudden-death common factors and as one of the possible explanations for the unusual subject behaviours that are warning signs for sudden unexpected death. The materials define “excited delirium” as:

A state of extreme mental and physiological excitement, characterized by extreme agitation, hyperthermia, hostility, exceptional strength and endurance without apparent fatigue.⁹⁵

As I will discuss in more detail in Part 9 of this Report, there is controversy within the medical community about whether excited delirium is a stand-alone diagnosis, or merely a symptom of an underlying condition. This debate is reflected in the agencies’ training materials:

- One agency trains that excited delirium is only a symptom of an underlying condition.
- One agency trains that excited delirium is a medical emergency with several possible causes, including psychiatric illness and/or stimulant abuse, alcohol withdrawal, insulin shock (very low blood sugar), head injury, or other medical problems.
- One agency provides a detailed physiological explanation, stating that excited delirium may involve an organic chemical imbalance in the brain, psychiatric illness, or stimulant abuse; it may be caused by hypoxia, hypoglycemia, stroke and intra-cranial bleeding; it involves sympathetic nervous system arousal, and is a run-away of the flight-or-fight response; it is associated with an increase in adrenaline/non-adrenaline release, an increase in body temperature, an increase in CO₂, decrease in blood pH, exertional rhabdomyolysis, heart arrhythmia, and cardiac arrest.

The manufacturer’s training materials support the deployment of a conducted energy weapon against a person who is in a state of excited delirium although, when discussing extended or repeated weapon applications, they caution, “Especially when dealing with persons in a health crisis such as excited delirium, it is advisable to minimize the physical and psychological stress to the subject to the greatest degree possible.”⁹⁶

⁹⁵ *Ibid.*, slide 219.

⁹⁶ *Ibid.*, slide 166.

The agencies' training materials provide guidance respecting how an officer should respond to a subject exhibiting these symptoms, with some variation among agencies:

- One agency states that sudden and unexpected death proximal to restraint is not a rare occurrence (there are approximately 200 deaths every year following police restraint), but then emphasizes (as do three other agencies) that excited delirium is a medical emergency and that there can be no medical treatment without restraint. It then offers the general advice that officers should weigh the need for immediate control against the risk to the subject.
- Eleven agencies train (in accordance with the manufacturer's materials) that officers should consider having emergency health services standing by.
- Nine agencies train that if a subject displays any of these unusual behaviour patterns, officers must ensure that the subject receives immediate medical attention, as the subject is at an elevated risk of in-custody death.
- Three agencies outline several pre-contact strategies when dealing with a subject in an excited delirium state, such as keeping the subject talking (to cause cognitive pattern interruption), keeping distance from the subject, and issuing simple and clear commands. However, they provide contradictory training on whether the officer should lower the lights or slow his or her physical movements.

11. Voluntary exposure

The manufacturer's training materials⁹⁷ state that exposure to a conducted energy weapon during training is not required for instructor or operator certification, although a 2004 training bulletin stated that the manufacturer strongly recommends a sample hit.

The Commission's survey of BC law enforcement agencies found that:

- No agency requires that trainees be subjected to a conducted energy weapon exposure;
- Seven provincially regulated agencies plus the RCMP permit exposure, if the trainee volunteers; and
- Seven agencies prohibit exposure during training, even with trainee consent.

⁹⁷ *Ibid.*, slides 45-51.

For agencies that do permit voluntary exposure during training, the manufacturer's PowerPoint training materials offer the following advice:

- Exposure to neuromuscular incapacitation involves physical exertion similar to an athletic activity, such as weight lifting or wrestling. Risks of injury from physical exertion or falling, while low, are *not* zero.
- Volunteers should notify the instructor of any pre-existing injuries, medical conditions, or susceptibilities.
- Volunteers with pre-existing conditions, such as a back injury, should avoid exposure to the injured areas.
- Prior to taking an exposure, the volunteer should stretch and warm up as they would before exercising.
- The volunteer should stand on proper matting and the area should be clear of bystanders and objects.
- The volunteer must be placed face down on the mat or, if standing, must be supported by two spotters, each one holding an upper arm under the armpit so that the volunteer can be safely supported and lowered to the mat after deployment without twisting, rotating, or putting undue stress on the arm or shoulder. The volunteer and both spotters must wear eye protection.
- Exposure may be effected by attaching alligator clips to the volunteer's clothing, or by deploying the weapon in probe mode.
- Probes should be deployed from behind the volunteer into his or her back and/or legs, to avoid penetration of the face, throat, or genitals.

In addition, a 2004 training bulletin recommended removing the probes and barbs from the ends of the wires and taping the ends of the wires to the volunteer's shoulder, back, hip or leg, as well as limiting the electrical discharge to 1–2 seconds.

The agencies' training materials repeat these guidelines, with some variations:

- One agency states that exposure causes strong muscle contractions that may result in injuries to muscles, tendons, ligaments, back, joints, and stress fractures. For that reason, deployment may only occur to the front torso area, and wires must be attached to the volunteer's clothing with tape or alligator clips. The clips must be 12–18 inches apart, and exposure must be limited to 1–2 seconds, unless the volunteer requests a full five-second cycle.
- Eight agencies train to aim for the back of the legs, to further reduce stress to the volunteers.

D. CONCLUSIONS

From this review, I have reached several conclusions.

First, there is a troubling lack of consistency in provincial law enforcement agencies' training materials respecting conducted energy weapon use. Much of this is an inevitable consequence of the Police Academy's decision in 2006 to withdraw from conducted energy weapon training (except in relation to the Sheriff Services Division and Corrections Branch) after the Vancouver Police Department decided that it did not want all its recruits trained in use of this weapon. It has meant that all municipal police departments and several other law enforcement agencies have had to develop their own in-house training programs, regardless of their size or training expertise. It is inefficient and unnecessarily expensive, and has inevitably led to inconsistencies among agencies and an undue reliance on the manufacturer's training materials.

I can well understand why one police agency may not want all its officers to carry conducted energy weapons while on the street. However, it is regrettable that such an *operational* decision should have triggered such a detrimental impact on the *training* of police recruits across all agencies.

British Columbians would be much better served if one body assumed responsibility for basic training in conducted energy weapon use, as an integral component of use-of-force training generally. The Police Academy is, without question, the appropriate body to perform this function.

The provincial government has had, for at least a decade, the authority under s. 74(2)(t) and (u) of the *Police Act* to make regulations respecting police officer training, including training in the use of all types of weapons. It should exercise this authority to require that one agency, presumably the Police Academy, conduct all recruit training in the use of conducted energy weapons.

Second, the police agencies' training materials reveal confusion about which matters properly fall within the ambit of *training* and which should be dealt with as *policy*. At

the risk of oversimplifying a complex topic, training should focus on how, and policy should focus on when. For example, training should address matters such as how the weapon functions, the differences between push-stun and probe modes, the impact of deployment on a subject, steps the officer should take to reduce the risk of injury, procedures for recording what happened and downloading data, and proper care of the weapon. On the other hand, policy should dictate such matters as qualifications of trainers, content and duration of training and re-certification requirements, what threshold of subject behaviour must be met before deployment is appropriate, circumstances in which a conducted energy weapon should never be deployed, and when repeated or prolonged cycles are appropriate.

To repeat what I said in Part 5, it is in my view the responsibility of the provincial government to set policy on such important issues as conducted energy weapon use. It then becomes the responsibility of trainers to train in the use of such weapons, within that policy framework.

Third, this review has shown an inappropriately high degree of dependence on the manufacturer's training materials, not only among the ten agencies that rely exclusively on the manufacturer's materials, but also among other agencies that profess to have developed "vendor-neutral" materials.

I do not mean to suggest that the manufacturer's materials should not be used in training. The manufacturer has designed and built the weapon, and knows how it works and how it should be cared for.

However, it is in my view inappropriate for law enforcement agencies to rely exclusively on the manufacturer's training materials, when they encroach into policy areas or issues of medical risks that may be under dispute.

If, as I have suggested, trainers focus on the *how*, not the *when*, then trainers' reliance on the manufacturer's training materials may cease to be a problem. It will be the responsibility of the provincial government to set policy on conducted energy

weapon use, which will require an understanding of, and objective analysis of, the medical issues that I will explore in Part 9.

Part 7

Incidence of Conducted Energy Weapon Use in British Columbia

**PART 7: INCIDENCE OF CONDUCTED ENERGY WEAPON USE
IN BRITISH COLUMBIA**

PART 7: INCIDENCE OF CONDUCTED ENERGY WEAPON USE IN BRITISH COLUMBIA

A.	INTRODUCTION	149
B.	THE INTRODUCTION OF CONDUCTED ENERGY WEAPONS	149
C.	MUNICIPAL POLICE DEPARTMENTS.....	151
1.	Methodology.....	151
2.	Inventory of conducted energy weapons	154
3.	Number of conducted energy weapon deployments	155
4.	Who are conducted energy weapons used against?	160
a.	<i>Personal characteristics</i>	160
b.	<i>Time and location of incidents</i>	161
c.	<i>Types of incidents</i>	161
d.	<i>Levels of resistance</i>	162
5.	Types of deployments.....	163
a.	<i>Single mode of deployment</i>	163
b.	<i>Effectiveness of deployments</i>	164
c.	<i>Push-stun and probe mode deployments</i>	164
d.	<i>Multiple deployments against a subject</i>	165
6.	Relationship between levels of resistance and mode of deployment	165
7.	Use of other force options	167
8.	Deaths, injuries, and medical attention	167
a.	<i>Deaths of and injuries to subjects</i>	167
b.	<i>Injuries to police officers</i>	168
c.	<i>Medical attention</i>	168
9.	Public complaints.....	168
D.	ROYAL CANADIAN MOUNTED POLICE	169
1.	Methodology.....	169
2.	Analysis of data	169
E.	TRANSIT AUTHORITY POLICE	171

PART 7: INCIDENCE OF CONDUCTED ENERGY WEAPON USE
IN BRITISH COLUMBIA

F.	PROVINCIAL SHERIFF SERVICES	171
1.	The role of Sheriff Services	171
2.	Sheriff Services Division policy	171
3.	Methodology	172
4.	Analysis of data	173
G.	PROVINCIAL CORRECTIONS BRANCH	175
1.	The role of the Corrections Branch	175
2.	Corrections Branch policy	176
3.	Methodology	176
4.	Analysis of data	178

A. INTRODUCTION

In this part I will examine the introduction of conducted energy weapons into British Columbia, how the number of weapons and the number of deployments have increased over the past decade, and the types of circumstances in which conducted energy weapons have been deployed.

B. THE INTRODUCTION OF CONDUCTED ENERGY WEAPONS

In December 1998, the Victoria Police Department began a six-month field study of conducted energy weapons. It used models supplied by two American manufacturers:

- Tasertron, located in Corona, California, which produced the TE-86 and TE-95, which were two-shot models, and a newer TE-93, which was a one-shot model; and
- TASER International, based in Scottsdale, Arizona, which produced the AIR TASER Model 34000.

Following the field study, Sgt. Darren Laur prepared a technical report, which the Canadian Police Research Centre published in 2000⁹⁸ for the assistance of police forces across the country. According to the report, a conducted energy weapon was used 14 times during the field study. In five cases, voluntary compliance was achieved simply through the threat of use, or by using the laser lights on the subject. In the other nine cases, the weapon was fired, causing incapacitation. In all cases, the subjects fully recovered within minutes without injury or after-effect.

With respect to medical research, the author stated (at p. 6), “To say that TASER pulse wave technology has been over-studied by the medical community would be an understatement,” adding:

To date, all medical research involving the TASER has found that, when used on a normally healthy adult, the electrical current, supplied by a TASER with

98 Laur, Darren, *Taser Technology Research Paper* (Ottawa: CPRC, 2000), available at http://www.icpra.org/home/reading_2/CPRC_Taser_Research.pdf.

PART 7: INCIDENCE OF CONDUCTED ENERGY WEAPON USE
IN BRITISH COLUMBIA

50,000 volts and 5 watts, is extremely safe to use, and will not affect cardiac muscle, will not affect pace makers, or cause long term seizures.⁹⁹

After comparing the relative merits of the two manufacturers' law enforcement models, the author strongly endorsed the TASER pulse wave technology systems, which he concluded were "a safe, reliable and an effective less lethal option for the Canadian police and correctional agencies" (p. 27).

He identified numerous advantages to using TASER technology, based on the Victoria field study and his research paper, including increased officer and subject safety, decreased number of injuries to officers and subjects, increased success with subjects immune to pain compliance tactics, no fatalities directly related to TASER, a morally and legally responsible less lethal option, decreased liability issues for management, a more humane use-of-force option, and extremely cost effective.

In 1999 then-Attorney General Ujjal Dosanjh, Q.C., authorized municipal police departments in British Columbia to use conducted energy weapons. His decision was based largely on the results of the Victoria Police Department's field study. In his presentation during our public forums,¹⁰⁰ Mr. Dosanjh said that his approval was based on three assurances he had received:

- These conducted energy weapons were absolutely safe to use. They saved lives because in most instances in which a police officer might draw a firearm, that would not be required. It would be safer for police officers and for people on whom such weapons would be used.
- The matter of safety had been thoroughly researched, if not over-researched.
- These weapons would be used absolutely sparingly, only in situations where the subject was assaultive or combative—a threat to themselves, the police, or some third person.

In his presentation, the Director of Police Services echoed Mr. Dosanjh's understanding:

⁹⁹ In light of the medical research that has been done since Sgt. Laur's 2000 report, his suggestion that conducted energy weapons had been over-studied seems, in hindsight, to have been overly optimistic.

¹⁰⁰ Transcript, May 12, 2008, pp. 50-51.

It was expected that Tasers would be limited to being used in situations where subjects were violent, aggressive, or armed; in other words, in situations with a very high level of risk and potential for serious injury to both police officers and subjects.... [W]e do share the concern that there has been slippage in terms of Tasers being used in increasingly lower risk encounters. This is not how the government originally envisioned or endorsed the use of Tasers.¹⁰¹

By 2001, all 11 municipal police departments in British Columbia were using conducted energy weapons, and the RCMP authorized use in its detachments across Canada on December 20, 2001. The Sheriff Services Division began using them in late 2001.

The provincial Corrections Branch began using conducted energy weapons in 2003. In 2007 the Transit Authority Police (formally called the South Coast British Columbia Transit Authority Police Service) authorized their use.¹⁰²

C. MUNICIPAL POLICE DEPARTMENTS

1. Methodology

Most of the information in this part of the Report is based on an empirical analysis of incident reports obtained from law enforcement agencies in British Columbia.

In April and May 2008, requests were sent to each of the 11 independent municipal police departments,¹⁰³ plus two tribal police agencies¹⁰⁴ and the Transit Authority Police,¹⁰⁵ asking for “conducted energy weapon incident reports” dating from when the department first equipped its members with conducted energy weapons to the present. Each department was also asked to provide information about when such

¹⁰¹ Transcript, May 7, 2008, pp. 53-54.

¹⁰² Two tribal police agencies (Stl’Atl’Imx Tribal Police and Kitasoo Tribal Police) also received authority to use conducted energy weapons. However, they will not be included in the analysis that follows, because the Stl’Atl’Imx Tribal Police reported no conducted energy weapon usage, and the Kitasoo Tribal Police (comprised of a single RCMP officer under contract) reported only one incident of conducted energy weapon usage.

¹⁰³ Abbotsford, Central Saanich, Delta, Nelson, New Westminster, Oak Bay, Port Moody, Saanich, Vancouver, Victoria, and West Vancouver.

¹⁰⁴ Only one of these agencies, the Kitasoo Tribal Police (comprised of a single RCMP officer under contract), had used the CEW. The Stl’Atl’Imx Tribal Police reported no CEW usage.

¹⁰⁵ Originally known as the Greater Vancouver Transit Authority Police Service (GVTAPS) this agency is now known as the South Coast British Columbia Transit Authority Police Service.

weapons were first acquired by the agency and inventory information about the number of weapons initially and subsequently acquired.

In order to facilitate and expedite the release of documents to the Commission, Sharon Samuels, Research Counsel, negotiated and signed confidentiality agreements with each of the independent police agencies, the Corrections Branch, and Sheriff Services ensuring that the privacy of individuals involved in conducted energy weapon incidents (both police and civilians) would be safeguarded by the Commission.

For some departments these requests posed a significant challenge in identifying and retrieving incident reports related to conducted energy weapon usage.¹⁰⁶ Incident reports were identified through multiple database, location, and manual searches. After the initial delivery of documents, several departments identified additional reports by searching for different spellings of key words (such as taser or tazer).¹⁰⁷

Incident information was provided in four main formats: control tactic reports, use-of-force reports, subject behaviour/officer response reports, and general occurrence reports. In some cases, more than one type of report (such as a use-of-force report and a general occurrence report) was provided. General occurrence reports were requested from some departments when it was determined that the use-of-force reports initially provided did not contain enough information, in particular a narrative or synopsis of the event, about the circumstances of the incident for the purposes of this analysis.

A coding form was developed to capture information about subject characteristics and behaviours, incident type and location, mode of weapon deployment, use of other force options, subject and officer injuries, arrest status, and policy compliance. The

¹⁰⁶ West Vancouver could not locate any CEW incident reports from 2004 and did not know whether there were or were not any CEW incidents in that year. Other departments reported that a few early files had been purged from their systems and no reports could be provided.

¹⁰⁷ Notably, among the last reports to be provided, following several inquiries and reminders, were those related to two fatalities associated with CEW use in Vancouver. Additional reports that had not previously been acknowledged were found in the possession of specialized units such as the VPD Emergency Response Team.

form was modified somewhat, following the coding of approximately 100 incident files. File coding was completed in early September 2008.¹⁰⁸

For the purposes of this research, the unit of analysis was defined as “the use of a conducted energy weapon on an individual during a single event.” If the police incident report(s) described the use of the conducted energy weapon on more than one subject during a single event a “Conducted Energy Weapon Incident File Review Coding Form” was completed for each subject and would be counted as multiple instances of weapon use.

The period covered by this review is from December 1998 (when the first use of conducted energy weapons occurred during pilot testing of the weapon in Victoria) through to the end of 2007. Some departments provided reports from early in 2008; however, these incidents were excluded from the analysis in order to have a consistent study end date for all agencies.

This empirical analysis culminated in three research reports written by Karen A. Ryan,¹⁰⁹ which addressed use by municipal police departments, including the RCMP and the Transit Authority Police (Appendix G), the Sheriff Services Division (Appendix H), and the provincial Corrections Branch (Appendix I).

Since the conditions under which conducted energy weapons are used vary significantly among these different law enforcement agencies, I will discuss the municipal police departments first, and then deal separately with the RCMP, the Transit Authority Police, the Sheriff Services Division, and the provincial Corrections Branch.

108 Significant research assistance was provided by Jennifer B. Morgan, who completed much of the file coding and provided general research support.

109 *Use of Conducted Energy Weapons by Municipal Police Agencies in British Columbia, 1998-2007, Use of Conducted Energy Weapons by Provincial Corrections in British Columbia, 2003-2007, and Use of Conducted Energy Weapons by the Sheriff Services in British Columbia, 2001-2007.*

2. Inventory of conducted energy weapons

There are 11 municipal police departments in British Columbia, policing 12 municipalities in Greater Victoria, the Lower Mainland, and Nelson. Over the past decade, most of these departments have increased their inventory of conducted energy weapons, as Table 4 shows:

Table 4: Inventory of CEWs by municipal police department, by year

Agency	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Greater Victoria										
Victoria	1	4	4	4	4	4	14	12	15	30
Oak Bay		1	1	3	3	3	4	4	4	4
Saanich			3	3	3	3	3	7	8	8
Central Saanich				2	2	2	2	2	2	2
Lower Mainland										
Vancouver			40	40	40	40	40	95	95	95
West Vancouver				2	5	5	5	5	5	6
Delta				3	15	19	23	26	30	34
Port Moody				2	2	2	2	2	6	4
New Westminister			3	3	3	9	9	15	15	15
Abbotsford			3	3	18	18	25	25	29	30
Nelson				1	1	1	1	1	1	1

Note: Counts are per year and are not cumulative. The current inventory for a department may be different from that shown for 2007, due to purchases made during 2008 and 2009, and weapons temporarily withdrawn from service in late 2008 for calibration testing.

The number of conducted energy weapons that any particular municipal police department has, in relation to the number of officers it employs, varies significantly (see Table 5), which suggests differing attitudes towards their use.

Table 5: Ratio between policing agencies' authorized strength and number of conducted energy weapons in their inventory¹¹⁰

Policing agency	Authorized strength	Inventory	Number of officers/CEW
Greater Victoria			
▪ Victoria	221	30	7.4:1
▪ Oak Bay	22	4	5.5:1
▪ Saanich	147	8	18.4:1
▪ Central Saanich	21	2	10.5:1
Lower Mainland			
▪ Vancouver	1,214	95	12.8:1
▪ West Vancouver	79	6	13.2:1
▪ Delta	151	34	4.4:1
▪ Port Moody	40	4	10.0:1
▪ New Westminster	107	15	7.1:1
▪ Abbotsford	195	30	6.5:1
Nelson	17	1	17.0:1

3. Number of conducted energy weapon deployments

According to incident reports provided to the Commission, municipal police departments deployed¹¹¹ conducted energy weapons 1,397 times between 1998 and 2007.¹¹²

It is probably more accurate to say that there were *at least* 1,397 deployments during this time period—there may have been many more. Let me explain. When an officer deploys a conducted energy weapon, the officer is required to complete and file with the department a use-of-force report. Assuming that every officer does so, and

110 Authorized strength data is for 2006 (the most recent data available), and was extracted from the Police Services Division report, *Police Resources in British Columbia, 2006*. Inventory of conducted energy weapons data was provided to the Commission by each municipal police department, and is for the year 2007.

111 In this analysis, “deployment” includes a verbal warning that the weapon might be used, display of the weapon (*i.e.*, drawing the weapon from the holster, and possibly “sparking” it and/or targeting the laser light on the subject’s body), and application of the weapon in push-stun mode, probe mode, or both.

112 The analysis in this section is based on Ms. Ryan’s research paper entitled *Use of Conducted Energy Weapons by Municipal Police Agencies in British Columbia*. That paper reported a total of 1,404 conducted energy weapon incidents. However, that total included six incidents involving the Transit Authority Police and one incident involving the Kitasoo Tribal Police. These seven incidents have not been included in the analysis of municipal police departments.

PART 7: INCIDENCE OF CONDUCTED ENERGY WEAPON USE
IN BRITISH COLUMBIA

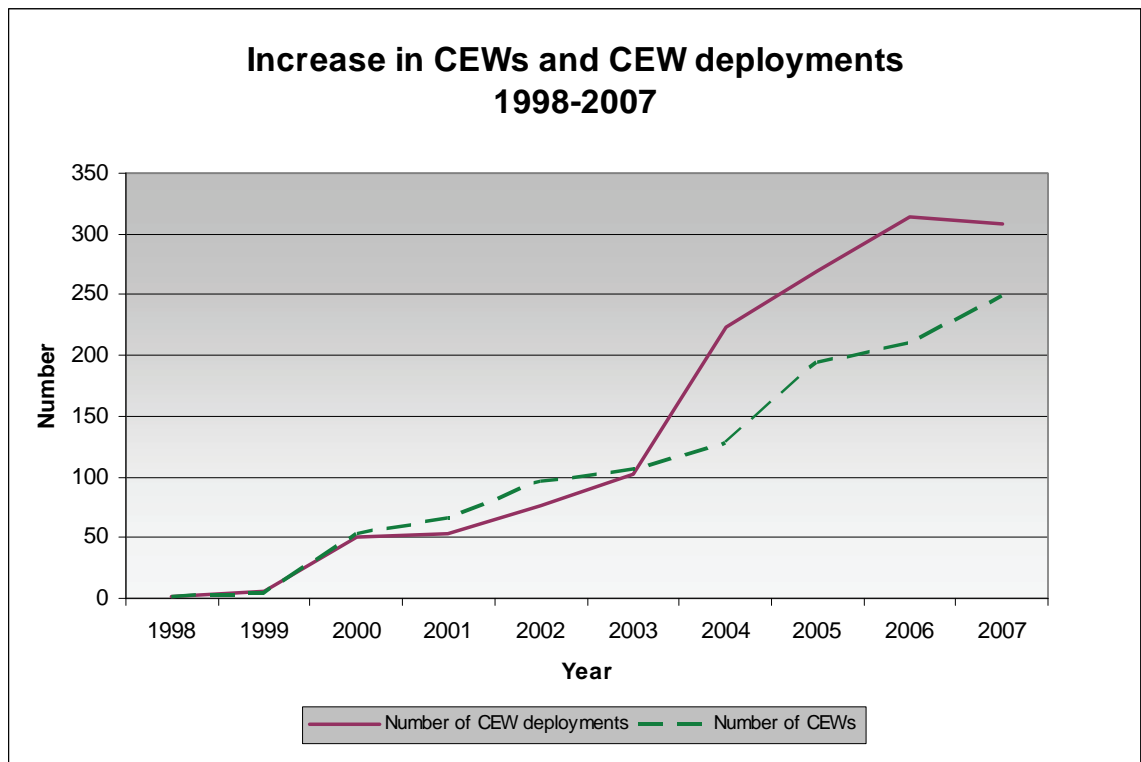
assuming that the police department retains all such reports and has provided all such reports to this Commission, then the Commission's tabulation of the number of deployments by all municipal police departments is reliable.

However, when Commission staff attempted to match incident reports against complaints received by the provincial Police Complaint Commissioner, they identified a significant anomaly. Between 2001 and 2007, the Police Complaint Commissioner received 32 complaints arising from incidents in which conducted energy weapons were alleged to have been used by municipal police departments. When Commission researchers tried to match those 32 complaints against incident reports received from police departments, they found that in 18 cases (56 percent), no corresponding incident report had been provided to the Commission. There are several possible explanations for this discrepancy—in over half of all conducted energy weapon deployments, the officer may not have completed and/or filed an incident report, or the department may not have retained the report and/or provided it to the Commission. Whatever the explanation, one could reasonably conclude that there have been far more deployments (up to twice as many) as the information provided by municipal police departments suggests.¹¹³

In any event, the Commission's review of the 1,397 incident reports reveals that the number of deployments has increased over the past decade, at a rate that exceeds the growth in the number of weapons that are in use, as Graph 1 shows.

113 This conclusion is consistent with a finding made by Paul E. Kennedy, Chair of the Commission for Public Complaints Against the RCMP, in his June 12, 2008 final report entitled: *RCMP Use of the Conducted Energy Weapon (CEW)* (available at http://www.cpc-cpp.gc.ca/af-fr/PDF/FinalCEWReport_e.pdf), at p. 38, where he stated: "Of the 76 Commission complaints about CEW deployment, 52 corresponding Forms 3996 could not be located in the RCMP database. This means that 68 percent of the Commission's deployment complaints could not be accounted for. Furthermore, of the 28 complaints where CEW deployment was only threatened, none of the Forms 3996 could be found in the database.... These two findings confirmed that there has been extensive underreporting of CEW use, especially in cases where the weapon was threatened but not deployed."

Graph 1: Increase in CEWs and CEW deployments, 1998-2007



When we examine the frequency of conducted energy weapon deployment by individual municipal police departments, we find surprising variations, as Table 6 shows:

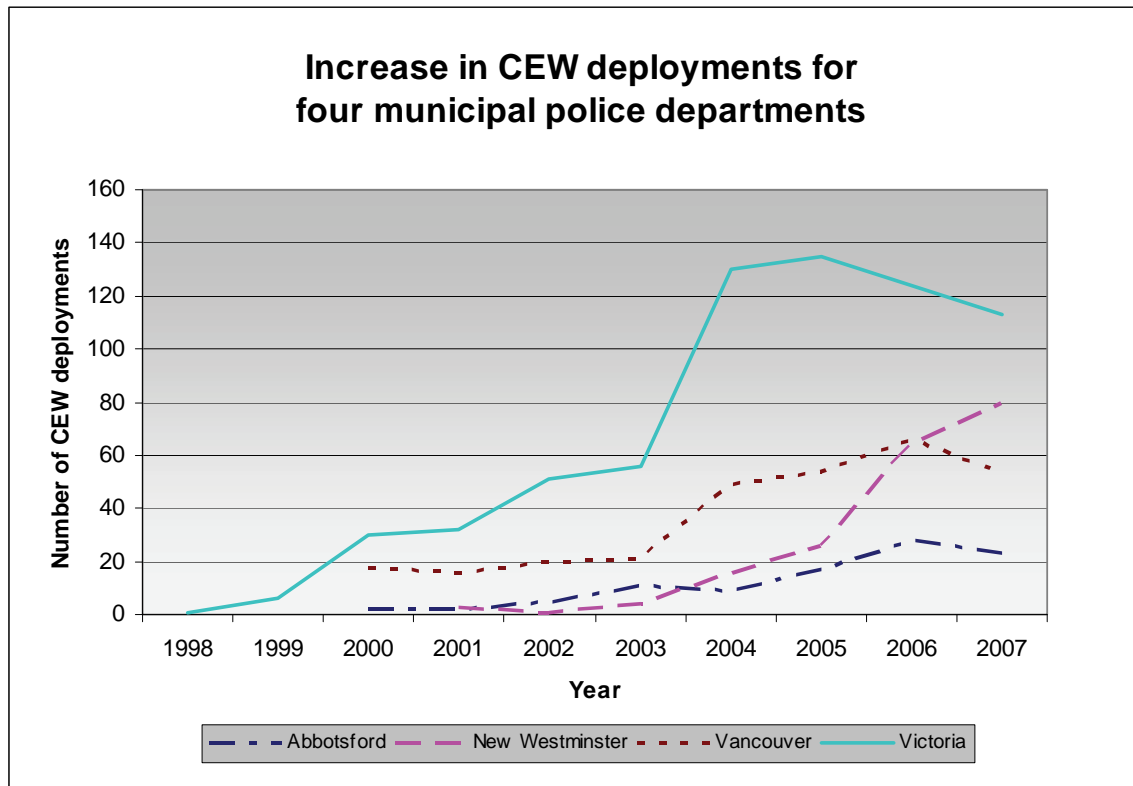
PART 7: INCIDENCE OF CONDUCTED ENERGY WEAPON USE
IN BRITISH COLUMBIA

Table 6: Frequency of conducted energy weapon deployment

Policing agency	Number of CEW deployments	Percentage
Greater Victoria		
▪ Victoria	678	48.5
▪ Oak Bay	7	0.5
▪ Saanich	43	3.1
▪ Central Saanich	5	0.4
Lower Mainland		
▪ Vancouver	297	21.3
▪ West Vancouver	19	0.6
▪ Delta	45	3.2
▪ Port Moody	8	0.6
▪ New Westminster	195	14.0
▪ Abbotsford	97	6.9
Nelson	3	0.2
TOTAL	1,397	100.0

If we isolate the four municipal police departments with the highest overall deployments, we find that in each case there has been a steady and consistent increase over the years, as Graph 2 shows:

Graph 2: Increase in CEW deployments for four municipal police departments



Note 1: Initial year of implementation may represent a partial year. Part of the increase in New Westminster between 2005 and 2006 is accounted for by an increase in reported incidents in which the CEW was displayed only (with no stun or probe deployment). In 2005, none of the 26 incidents were display only; while in 2006, 17 of 65 incidents (26 percent) were display only; and in 2007, 36 of 80 incidents (45 percent) were display only.

Note 2: This graph illustrates the difficulty Commission researchers had in obtaining reliable data about conducted energy weapon deployments. For example, the data provided by the Vancouver Police Department indicated that there had been 53 deployments in 2007. However, in a March 10, 2009, report to the Vancouver Police Board by the VPD's director of the Planning, Research and Audit Section, 80 deployments were reported for 2007, including six in display mode only. This represents an under-reporting to the Commission of approximately 33 percent.

Finally, it is informative to examine each municipal police department's deployment in relation to that municipality's population, as shown in Table 7:

Table 7: Per capita CEW deployment by municipal police departments
(2006)

Department	Population*	No. of CEW deployments	No. of deployments per 100,000 pop.
Greater Victoria			
▪ Victoria	**94,897	124	130.7
▪ Oak Bay	17,908	2	11.2
▪ Saanich	108,265	13	12.0
▪ Central Saanich	15,745	3	19.1
Lower Mainland			
▪ Vancouver	578,041	66	11.4
▪ West Vancouver	42,131	4	9.5
▪ Delta	96,723	5	5.2
▪ Port Moody	27,512	2	7.3
▪ New Westminster	58,549	65	111.0
▪ Abbotsford	123,864	28	22.6
Nelson	9,258	1	10.8

*2006 Canada Census

**Includes the population of Esquimalt (16,840), which the Victoria Police Department has policed since 2003.

4. Who are conducted energy weapons used against?

a. Personal characteristics

The Commission's review found that:

- Males were the subjects in over 90 percent of conducted energy weapon deployments.
- The average age of subjects was 32.7 years (but ranging between 13 and 84 years).
- Subjects were medium or average size in 75 percent of cases, large in 18 percent of cases, and small in 7 percent of cases.
- 75 percent of subjects were Caucasian, followed by Aboriginal (13 percent), and Asian, Black and South Asian (3 percent each). There was some variation in these rates among police departments.
- In 10 percent of cases the police had prior knowledge of a mental illness, although there was wide variation among police departments.

PART 7: INCIDENCE OF CONDUCTED ENERGY WEAPON USE
IN BRITISH COLUMBIA

- In 10 percent of cases the police had prior knowledge of the subject's violent behaviour.
- In only 2 percent of cases the police had prior knowledge of the subject's pre-existing medical condition, such as brain injuries, diabetes, hepatitis C, or seizure disorders.

b. Time and location of incidents

Two-thirds of conducted energy weapon deployments occurred during the evening or at night, between 6 p.m. and 6 a.m. Weapons were deployed at a wide variety of locations, including:

- on the street (38 percent)
- at a residence (34 percent)
- at police cells (8 percent)
- at businesses other than bars and nightclubs (5 percent)
- outside of bars and nightclubs (5 percent)
- at hospitals (3 percent)

c. Types of incidents

Information included on the incident reports enabled the Commission researchers to identify the types of incidents to which officers responded. Since some reports included two types of incidents, there is some overlap between categories. The highest rates were for the types of incidents set out in Table 8:

Table 8: Types of incidents resulting in conducted energy weapon deployment

Type of incident	Frequency	Percentage
Suicide attempt/threat/self-injurious behaviour	277	19.8
Violence/threat of violence to others (fight)	238	17.0
Disturbance	214	15.3
Drug/alcohol intoxication	173	12.4
Emotionally disturbed person	150	10.7
Domestic disturbance/violence	138	9.9
Patrol observes infraction	102	7.3
Person with knife	99	7.1

PART 7: INCIDENCE OF CONDUCTED ENERGY WEAPON USE
IN BRITISH COLUMBIA

In approximately 20 percent of cases, the subject was armed with some type of weapon, although this percentage ranged from 10 to 43 percent, depending on the municipality involved. The types of weapons included an edged weapon (68 percent), blunt weapon (19), pointed weapon (12), and firearm (2).

d. Levels of resistance

The types of subject behaviours, or the subject's level of resistance, were also tabulated, as set out in Table 9. In this grouping as well, an incident report may contain multiple descriptors of subject behaviour or actions.

Table 9: Subject behaviours/actions

Subject behaviours/actions	Frequency	Percentage
Cooperative/compliant to directions	100	7.1
Passive resistance	108	7.7
Agitated	210	15.0
Pacing	19	1.4
Yelling	340	24.2
Smashing property	60	4.3
Verbally abusive/verbal threats/verbal aggression	322	22.9
Alcohol/drug intoxication	867	61.8
Symptoms of "excited delirium"	14	1.0
Symptoms of drug overdose	1	0.1
Symptoms of drug-induced psychosis	49	3.5
Active resistance	1,020	72.6
Assaultive	691	49.2
Violence/threatened violence to police	160	11.4
Violence/threatened violence to self	132	9.4
Violence/threatened violence to others	111	7.9
Threatened suicide by cop scenario	51	3.6
Grievous bodily harm or death	19	1.4
Officer assaulted	66	4.7

The information in Table 9 should be approached with caution, because the behaviour categories are not mutually exclusive. For example, in an incident in which the subject's behavior was initially passively resistant to police direction but escalated to active resistance, both passive and active resistance were recorded. Having said that, several findings are significant:

- the frequency of incidents involving subjects exhibiting alcohol and/or drug intoxication (867); and
- the relative rarity of incidents in which the officer perceived a risk of grievous bodily harm or death (19).

5. Types of deployments

There are several ways in which a conducted energy weapon may be deployed—display mode, push-stun mode, and probe mode, or any combination of those modes.

a. Single mode of deployment

Our review of incident reports reveals that conducted energy weapons were deployed in a single mode only in the following numbers of cases, as set out in Table 10:

Table 10: Instances of single mode of deployment

Department	Total deployments	Display only	Push-stun only	Probe only
Greater Victoria				
▪ Victoria	678	155	240	155
▪ Oak Bay	7	4	0	0
▪ Saanich	43	1	18	5
▪ Central Saanich	5	1	0	0
Lower Mainland				
▪ Vancouver	297	61	62	73
▪ West Vancouver	19	4	4	4
▪ Delta	45	19	4	5
▪ Port Moody	8	0	1	5
▪ New Westminster	195	55	42	41
▪ Abbotsford	97	8	28	30
Nelson	3	0	0	3
TOTAL	1,397	308	399	321

While I am reluctant to draw firm conclusions from this data without having more detailed information about the circumstances of each deployment, I will make several general observations:

- It appears that in approximately 22 percent of cases, it was possible to resolve the situation by displaying the conducted energy weapon alone, without having to discharge it in either push-stun or probe mode.
- It appears that in almost exactly half the cases, it was possible to resolve the situation without resorting to discharge in probe mode.
- It appears that some police departments deploy conducted energy weapons in display mode only with greater frequency than other departments. This may indicate variations in training received, threat levels experienced by officers, reporting requirements for display-only use, or adherence to and enforcement of reporting requirements.

b. Effectiveness of deployments

When deployed in push-stun mode, the location of the subject's body most frequently targeted was the back (29 percent), legs (10), shoulders (6), side or ribs (5), and chest (4). It was effective in controlling the subject in almost 80 percent of cases.

When deployed in probe mode, the location of the subject's body most frequently targeted was the back (25 percent), chest (22), torso or centre mass (9), chest and abdomen (8), and abdomen (5). It was effective in controlling the subject in 67 percent of cases. When probe deployment was not effective, this was due to poor electrical conduction because of thick clothing (36 percent), one or both darts missing or becoming dislodged (24), or a malfunction of the weapon or low battery power (3).

c. Push-stun and probe mode deployments

In about 7 percent of cases (92), a conducted energy weapon was deployed in both push-stun and probe mode. This occurred in Victoria (35 times), New Westminster (22), Vancouver (16), Abbotsford (9), Delta (5), West Vancouver (3), and Saanich (2).

The frequency of such dual deployments has increased since conducted energy weapons were introduced. They accounted for 4 percent of deployments in 2000 and 8.6 percent of deployments in 2007.

d. Multiple deployments against a subject

When a conducted energy weapon was deployed in push-stun mode (with or without another mode of deployment as well), the subject was exposed to only one push-stun deployment in 55 percent of cases, and two such deployments in 26 percent of cases. The most push-stun deployments against a subject was 14.

When a weapon was deployed in probe mode, it was deployed for one cycle (normally five seconds in duration) in 64 percent of cases, and for two cycles in 23 percent of cases. The most probe-mode cycles deployed against one subject was 10.

6. Relationship between levels of resistance and mode of deployment

Earlier in this part I discussed the types of subject behaviours (or levels of resistance) that resulted in the deployment of a conducted energy weapon and then, in a separate analysis, the types of deployments (ranging from display mode to a combination of push-stun and probe modes). While informative when examined separately, it is even more interesting when data about both these matters are combined, as Table 11 shows.

Several noteworthy findings emerge from this analysis:

- In at least 12 percent of cases, conducted energy weapons were deployed contrary to the “active resistance” threshold established in the National Use of Force Framework, including 36 instances of deployment in push-stun or probe mode.¹¹⁴
- There were 19 instances in which the level of resistance (grievous bodily harm or death) justified the use of lethal force, but a conducted energy weapon was deployed instead.

¹¹⁴ In 13 of these 36 cases of passive resistance, the subject was armed with some type of weapon.

PART 7: INCIDENCE OF CONDUCTED ENERGY WEAPON USE
IN BRITISH COLUMBIA

Table 11: Method of CEW use by highest level of subject resistance

Highest Level of Resistance	Cooper- ative	Passive	Active	Assault- ive	GBH/ Death	Other	Total
CEW Use							
Warning Only	0	3	3	5	0	1	12
Display Only/ Deployment	92	32	89	75	0	20	308
Display & Stun	0	0	34	49	1	1	85
Display & Probe	0	16	55	88	7	3	169
Stun Only	0	2	145	244	2	6	399
Probe Only	0	17	129	147	9	19	321
Stun & Probe	0	0	22	37	0	0	59
Display & Stun & Probe	0	1	8	24	0	0	33
TOTAL	92	71	485	669	19	50	1,386

The Commission’s researchers determined that in approximately 62 percent of cases (860), alcohol or drug intoxication was identified as at least one of the subject’s behaviours. When that category of subjects was isolated, several interesting results emerged. First, in 11 percent of cases, a conducted energy weapon was deployed when the subject’s behaviour did not meet the “active resistance” threshold and, in 42 percent of these cases, the weapon was used in push-stun or probe mode, or both. Second, the types of deployments used for all intoxicated subjects were as follows:

- warning and/or display 139 (16.2 percent)
- push-stun mode 375 (43.6 percent)
- probe mode 289 (33.6 percent)
- push-stun and probe modes 57 (6.6 percent)

7. Use of other force options

The Commission's researchers also identified other intervention methods or force options that were employed against subjects, either before, during, or after deployment of a conducted energy weapon, including the following (in some cases, more than one intervention method was employed):

- *Before deployment*—verbal intervention (94 percent of cases), soft physical control (34), hard physical control (18), and firearm warning (5);¹¹⁵
- *During deployment*—verbal intervention (6), firearm warning (4), hard physical control (3), and soft physical control (2); and
- *After deployment*—restraint (95), hard physical control (10), and soft physical control (8).

With respect to restraint, 67 percent of subjects were arrested for *Criminal Code* violations, 20 percent of subjects were detained under the *Mental Health Act*, and approximately 10 percent were released. Of those released, 25 percent had been exposed to push-stun deployment, 37 percent had been exposed to probe-mode deployment, and 5 percent had been exposed to both modes of deployment.

8. Deaths, injuries, and medical attention

a. Deaths of and injuries to subjects

Two subjects died during or after an incident involving deployment of a conducted energy weapon by an officer of a municipal police department.

Twenty-four percent of subjects suffered a conducted energy weapon-related injury (rising to 31 percent in the case of subjects exposed to a push-stun or probe mode deployment). Of those:

- 98 percent suffered minor injuries, such as penetration of probe darts, welts from push-stun mode deployment, cuts, or falling after incapacitation; and
- less than 1 percent suffered more serious injuries, including lung collapse (after darts penetrated a lung), loss of consciousness (after falling and

¹¹⁵ “Firearm warning” refers to the practice of lethal overwatch, in which one officer draws his or her firearm and points it at the subject while another officer deploys the conducted energy weapon.

hitting head while incapacitated), and facial and torso wounds from dart penetration.

b. Injuries to police officers

In 6 percent of cases (82), a police officer suffered some type of injury:

- Approximately two-thirds were minor injuries, such as bruises, cuts, scrapes, or muscle strains; and
- Approximately one-third were more serious, such as broken fingers, knee injuries, back injuries, or possible exposure to serious infectious disease (e.g., hepatitis; HIV).

c. Medical attention

In 33 percent of cases, provincial ambulance attendants examined the subject at the scene, although this percentage varied widely (zero to 71 percent) among police departments.

In 37 percent of cases, either the ambulance service or a police officer transported the subject to hospital, and half of such cases involved detention under the *Mental Health Act*.

9. Public complaints

At the Commission's request, the Police Complaint Commissioner provided information about public complaints he had received about municipal police departments' use of conducted energy weapons. Between 2001 and 2007, his office received 37 complaints, and subsequently determined that a conducted energy weapon was involved in 32 of those cases. Those 32 complaints were disposed of as follows:

- | | |
|--|----|
| • excessive force (officer suspended for three days without pay) | 1 |
| • unsubstantiated | 13 |
| • summarily dismissed | 8 |
| • informally resolved | 5 |
| • withdrawn by complainant | 2 |
| • not yet resolved; file remains open | 3 |

D. ROYAL CANADIAN MOUNTED POLICE

1. Methodology

In April 2008, the Commission's researchers requested from the RCMP conducted energy weapon incident information relating to British Columbia, including incident reports and summaries. However, on July 22, 2008, the Commission notified the RCMP that this request (which had not been fulfilled) was being withdrawn, because the Commission's researchers would not be able to adequately review these incidents in time to meet the deadline for delivery of this Report to the Attorney General.

On July 31, 2008, the RCMP did provide the Commission with a CD-ROM disk containing incident reports, but by then it was too late to analyze the data and incorporate it into this Report.

Fortunately, the Commission for Public Complaints Against the RCMP had recently completed a Canada-wide review of RCMP use of conducted energy weapons. The Commission generously agreed to re-analyze its RCMP conducted energy weapon incident database, and to provide statistics for British Columbia ("E" Division) for the period January 1, 2002, to January 19, 2008. Where available, this data has been used to compare RCMP usage of conducted energy weapons with the results obtained from the Commission's review of municipal police department incidents.

In the discussion that follows, the reader should bear in mind that the RCMP, acting as British Columbia's provincial police force, provides policing services to approximately 70 percent of British Columbians. It serves in all areas of the province other than the 12 municipalities policed by the 11 municipal police departments.

2. Analysis of data

Based on the Commission for Public Complaints Against the RCMP's review of RCMP incident reports spanning the six years up to early 2008, the following findings emerge:

PART 7: INCIDENCE OF CONDUCTED ENERGY WEAPON USE
IN BRITISH COLUMBIA

- *Number of deployments*—RCMP officers in British Columbia deployed a conducted energy weapon on 1,466 occasions. However, this is almost certainly a significant undercount. As I noted earlier in this part, a national study by the chair of the Commission for Public Complaints Against the RCMP found that in 68 percent of cases, he could not find an incident report in the RCMP database to match the complaints he had received from members of the public about conducted energy weapon usage.¹¹⁶
- *Subject characteristics*—91 percent of subjects were males, with an average age of 33 years. These findings were almost identical to the findings applicable to municipal police departments.
- *Types of incidents*—the distribution of incident types was similar to municipal police departments, except that RCMP rates for mental health and causing a disturbance calls were higher, and suicidal person calls were significantly lower.
- *Substance use*—82 percent of RCMP cases involved use of substances (including alcohol and drugs), as opposed to 62 percent for municipal police departments.
- *Weapons*—35 percent of RCMP cases involved weapons, as opposed to 20 percent for municipal police departments.
- *Modes of deployment*—the RCMP deployed conducted energy weapons in push-stun mode more often than municipal police departments (45 percent vs. 41 percent), but in probe mode less often (39 percent vs. 42 percent). It deployed in both push-stun and probe mode significantly more often than did municipal police departments (8.5 percent vs. 6.6 percent).

I should also note that six subjects died during or after an incident involving deployment of a conducted energy weapon by an officer of the RCMP in British Columbia.

The RCMP now publishes quarterly reports on its members' use of conducted energy weapons across Canada.¹¹⁷

116 According to a recent report by the Commission for Public Complaints Against the RCMP, the incidence of conducted energy weapon use by the RCMP nationally dropped 30 percent in 2008 over 2007: see *RCMP Use of the Conducted Energy Weapon (CEW): January 1, 2008 to December 31, 2008*. Special Report dated March 31, 2008, p. 31, available at <http://www.cpc-cpp.gc.ca/prr/rep/sir/cew-ai-09-eng.aspx>.

117 See, for example, <http://www.rcmp-grc.gc.ca/ccaps-spcca/cew-ai/report-rapport-q2-2008-eng.htm>.

E. TRANSIT AUTHORITY POLICE

The Transit Authority Police began using conducted energy weapons in 2007, with an inventory of 20 weapons.

It used conducted energy weapons six times during 2007, including twice in push-stun mode and four times in probe mode. It reported no incidents in which a weapon was used in both push-stun and probe mode against one subject. In all cases the subject's behaviour met the active resistance threshold; however, in half these cases the active resistance consisted of fleeing from police after being stopped for a fare check.

In no cases did the Transit Authority Police deploy in push-stun mode more than once against a subject, or expose a subject to more than one probe-mode cycle.

Paramedics attended the scene in three of the Transit Authority Police's six deployments, and transported the subject to hospital.

The subject was arrested in three of the six deployments.

F. PROVINCIAL SHERIFF SERVICES

1. The role of Sheriff Services

The Sheriff Services Division comes within the Court Services Branch of the Ministry of Attorney General. It is responsible for court security, escort and detention of prisoners, jury management, service of court-related documents, execution of court orders and warrants, and coroner's court assistance.

Province-wide, there are currently 450 Sheriff Services Division peace officers. They provide courthouse security at 44 courthouses across the province, and are responsible for approximately 125,000 prisoner escorts annually.

2. Sheriff Services Division policy

The division's February 20, 2008, policy includes the following provisions:

4.5.4 Use of TASER

- a. The TASER is an alternative force options tool.
- b. The TASER may be used as a control weapon against an active resister or assailant where other forms of control or weapons would be ineffective or inappropriate under the circumstances. It should be noted that this weapon may not always be effective when used on an active assailant.
- c. The TASER is not to be used on a person who has already been placed in restraints except where it is necessary to approach the subject for control purposes and the subject continues to present an undue risk to the deputy.

3. Methodology

In May 2008 the Commission made a request to the Ministry of Attorney General, asking for “conducted energy weapons incident reports,” including any video records of conducted energy weapon incidents involving Sheriff Services Division staff dating from 2001 to the end of 2007.

In order to facilitate and expedite Commission access to documents and videos, Sharon Samuels, Research Counsel, negotiated and signed a confidentiality agreement with the Ministry of Attorney General (and approved by the Freedom of Information and Protection of Privacy Office) that ensured that the privacy of individuals involved in conducted energy weapon incidents (both staff and inmates) would be safeguarded by the Commission.

A coding form was developed to capture information about subject characteristics and behaviours, incident type and location, mode of weapon deployment, use of other force options, injuries, and policy compliance. File coding was completed in September 2008.

For the purposes of this research, the unit of analysis was defined as “the discharge of a conducted energy weapon on an individual during a single event.” If the conducted energy weapon was used in stun or probe mode on more than one subject during a single event, a “Conducted Energy Weapon Incident File Review Coding Form” was completed for each subject and would be counted as multiple instances of weapon

PART 7: INCIDENCE OF CONDUCTED ENERGY WEAPON USE
IN BRITISH COLUMBIA

use. If the weapon was used as a display only/compliance tool on multiple subjects, a single coding form was completed for the incident.

Commission researchers met with a senior member of the Sheriff Services Division staff in August 2008 to view video records of conducted energy weapon incidents. In total, 16 video records (including CCTV images) were viewed, including 14 probe deployment incidents and two display compliance incidents. “TASER Deployment Reports” and/or “Court Services Incident Reports” were reviewed in Ministry of Attorney General offices in accordance with the confidentiality agreement. Incident reports relating to 127 conducted energy weapon use incidents were provided to researchers for review.

The period covered by this review is from late 2001 (when sheriffs and sheriff’s deputies were first equipped with conducted energy weapons) through to the end of 2007.

4. Analysis of data

The number of conducted energy weapons in use, and the number of weapon incidents, has fluctuated since the weapon was introduced in late 2001, as Table 12 shows.

Table 12: Number of weapons in use and number of weapon incidents, 2001-2007

Year	Number of weapons in use	Number of weapon incidents	Percent of total
*2001	80	10	7.9
2002	80	18	14.2
2003	80	19	15.0
2004	80	14	11.0
2005	104	22	17.3
2006	95	21	16.5
2007	91	23	18.1
TOTAL		127	100.0

**Between October and December 2001 only.*

Significant findings include the following:

PART 7: INCIDENCE OF CONDUCTED ENERGY WEAPON USE
IN BRITISH COLUMBIA

- *Subject characteristics*—more than 92 percent of incidents involved males. Of the 127 incidents, 112 involved adult prisoners, four involved youth prisoners, and seven involved members of the public. A history of mental illness was noted for 30 percent of subjects, and 65 percent of incident reports noted that the subject had a history of violence.
- *Incident characteristics*—the type of duty being performed when the conducted energy weapon incident occurred was jail/holding cell security (72 percent), escort (14), criminal court security (13), and civil court security (1). The types of events that occasioned the use of a conducted energy weapon were, in percentages:

○ extraction from, or placement of a prisoner in, a cell	42
○ prisoner transfer	17
○ cell search	9
○ prisoner search	9
○ other (<i>e.g.</i> , maintaining cell or courtroom order, taking remanded prisoners into custody, serving court orders or warrants)	24
- *Location of incidents*—the four originating locations that had the highest incidence of weapon use were Surrey (26 percent), Victoria (17), Abbotsford (12), and Vancouver (9).
- *Subject behaviours*—the most commonly identified behaviours recorded (each incident may contain two or more descriptors) were, in percentages:

○ active resistance	60
○ verbally abusive/verbal threats/verbal aggression	46
○ assaultive	42
○ violence/threatened violence to others	22
○ agitated	17
○ yelling	16
- *Types of deployments*—in 102 cases (81 percent), compliance was achieved either by a warning or display of the weapon, without actually discharging it. When display compliance was not effective, the weapon was used in push-stun mode only in 10 cases (8 percent), in probe mode only in 10 cases (8), and in both push-stun and probe modes in three cases (2).
- *Relationship between types of deployment and levels of resistance*—in the four cases involving only cooperative behavior or passive resistance, the weapon was used in display mode only. When the subject's highest level of resistance was active resistance, the weapon was used in display mode only

in 31 cases, in stun mode in two cases and in probe mode in three cases. In the case of assaultive behaviour, the weapon was used in display mode only in 32 cases, in push-stun mode in nine cases, in probe mode in nine cases, and in both push-stun and probe mode in three cases.

- *Use of other force options*—prior to a conducted energy weapon being deployed, officers used other force options in most cases, including verbal intervention (121 cases), soft physical control (27), hard physical control (11), and restraints (7).
- *Injuries and medical attention*—in eight cases, a subject suffered a minor weapon-related injury, involving penetration of a probe dart into the skin. In addition:
 - In 10 incidents, subjects received non-weapon-related injuries, most of which were minor; and
 - In six incidents, officers received non-weapon-related injuries, including bruises, cuts, and strains.
- *Compliance with policy*—researchers compared conducted energy weapon use incidents to the Sheriff Services Division’s policy, and concluded that “policy compliance with respect to actions to be taken before, during, and after conducted energy weapon use is high.”

G. PROVINCIAL CORRECTIONS BRANCH

1. The role of the Corrections Branch

Among the law enforcement agencies discussed in this Report, the Corrections Branch is unique, in that its activities are focused primarily on people who are already in custody. The Adult Custody Division is responsible for the custody of persons remanded for trial, persons sentenced to imprisonment for the commission of crimes (usually for less than two years), and persons detained by immigration authorities. In addition, prisoners sentenced to imprisonment for two years or more may spend up to 15 days in a provincial correctional facility before being transferred to a federal penitentiary.

2. Corrections Branch policy

Any use of conducted energy weapons in correctional facilities in British Columbia, including presence, display, push-stun, or probe deployment, requires authorization from the warden, or from designated deputy wardens or assistant deputy wardens to whom the warden has delegated the authority. When not authorized for use to assist with a specific situation, conducted energy weapons are stored in a locked room.

Corrections Branch policy provides that officers may use conducted energy weapons in the following circumstances:

- tactical operations;
- cell entry or extraction;
- in response to an escape or escape attempt;
- external prowling (secure outdoor yard); and
- as approved by the warden when intervention is required to prevent self-harm, compel compliance, terminate violent and destructive behaviour, protect the safety of staff and inmates, or when lesser use of force is inappropriate or unreasonable.¹¹⁸

When possible, officers are supposed to make a video recording of conducted energy weapon deployments and, following deployment, the video recording and a use-of-force report are to be submitted to the provincial director of the Adult Custody Division.

3. Methodology

In May 2008, the Commission made a request to the Corrections Branch of the Ministry of Public Safety and Solicitor General, asking for “conducted energy weapon incident reports,” including any video records of conducted energy weapon incidents involving correctional staff dating from April 2003 to the end of 2007.

In order to facilitate and expedite the release of documents and videos to the Commission, Sharon Samuels, Research Counsel, negotiated and signed a

¹¹⁸ Ministry of Public Safety and Solicitor General, “Submissions of Corrections Branch, Adult Custody Division” (May 6, 2008). Written submission to the Braidwood Commission [unpublished].

confidentiality agreement with the Ministry of Public Safety and Solicitor General (and approved by the Freedom of Information and Protection of Privacy Office) that ensured that the privacy of individuals involved in conducted energy weapon incidents (both staff and inmates) would be safeguarded by the Commission.

A coding form was developed to capture information about subject characteristics and behaviours, incident type and location, mode of weapon deployment, use of other force options, inmate and staff injuries, and policy compliance. File coding was completed in September 2008.

For the purposes of this research, the unit of analysis was defined as “the discharge of a conducted energy weapon on an individual during a single event.” If the conducted energy weapon was used in stun or probe mode on more than one inmate during a single event, a “Conducted Energy Weapon Incident File Review Coding Form” was completed for each subject and would be counted as multiple instances of weapon use. If the weapon was used as a display only/compliance tool on multiple inmates, a single coding form was completed for the incident.

Commission researchers met with senior Corrections Branch (Adult Custody Division, Policy and Programs) staff in early August 2008 to review incident reports and view video records of conducted energy weapon incidents. In accordance with the above-noted confidentiality agreement, all data collection took place in Ministry of the Attorney General offices. In total, 19 video records of conducted energy weapon incidents were reviewed, including seven involving the discharge (in stun or probe mode) of the weapon.¹¹⁹ The characteristics of six incidents were collected from video recordings alone, as Corrections Branch staff could not locate the written incident report. Data collection was completed by the end of August 2008.

The period covered by this review is from April 1, 2003 (when correctional staff were first equipped with conducted energy weapons) through to the end of 2007.

¹¹⁹ Researchers asked to view video records of all incidents involving the discharge of the CEW; however, of 27 applicable incidents, 14 video records could not be produced or did not work properly and six incidents were apparently not recorded.

4. Analysis of data

The Corrections Branch has had, since conducted energy weapons were introduced in 2003, an inventory of 22 weapons. During that period the weapons were deployed 149 times, as follows:

• 2003	17
• 2004	31
• 2005	23
• 2006	18
• 2007	60

One possible explanation for the spike in deployments in 2007 is an increase in the inmate count and a decrease in staff levels, resulting in “significant overcrowding and resulting tension.”¹²⁰

Perhaps the most significant finding is that in 82 percent of cases (122 deployments), the subject was warned that a conducted energy weapon may be used or the weapon was displayed only, without having to resort to push-stun or probe mode.

Other significant findings include the following:

- *Subject characteristics*—98 percent of incidents involved males. In most cases, neither age nor ethnicity was recorded. The inmate had a history of violence in 26 percent of cases, and a history of mental illness in 18 percent of cases.
- *Reasons for deployment*—a conducted energy weapon was used to assist in a cell extraction (48 percent of cases), cell entry (17), lock-up (11), cell extraction and escort (9), escort (7), intake (6), and hostage-taking (1).
- *Subject behaviours*—the most commonly identified behaviours recorded (each incident may contain two or more descriptors) were, in percentages:
 - active resistance 42
 - smashing/damaging property 38
 - verbally abusive/verbal threats/verbal aggression 35
 - assaultive 33

¹²⁰ See Appendix I, Tables 1 and 2.

PART 7: INCIDENCE OF CONDUCTED ENERGY WEAPON USE
IN BRITISH COLUMBIA

- violence/threatened violence to staff 28
 - violence/threatened violence to self 24
 - cooperative/compliant to directions 23
 - agitated 20
- *Weapons*—in 20 percent of cases the inmate was armed with a weapon, which included an edged weapon (53 percent of those cases), pointed weapon (12), or a blunt weapon (20).
- *Types of deployments*—of the 149 incidents, the following shows the most frequent types of deployments recorded:
 - warning 1
 - display 121
 - push-stun 6
 - probe 18
 - push-stun and probe 3
- *Multiple deployments*—in the nine cases in which a weapon was used in push-stun mode, it was deployed once (in 5 cases), three times (2), four times (1), and six times (1). In the 21 cases in which a weapon was deployed in probe mode, it was deployed for one 5-second cycle (in 13 cases), two cycles (6), and three cycles (2).
- *Relationship between types of deployment and levels of resistance*—in 22 percent of cases the highest levels of resistance reported were cooperative or passive resistance. In all those cases, officers gave a warning only or deployed the conducted energy weapon in display mode only. In cases of active resistance, the weapon was used in push-stun mode twice, probe mode three times, and both modes once. In cases of assaultive behaviour, the weapon was used in push-stun mode four times, probe mode 14 times, and both modes twice.
- *Use of other force options*—prior to a conducted energy weapon being deployed, officers used other force options in most cases, including verbal intervention (147 cases), soft physical control (13), hard physical control (2), and pepper spray (3).
- *Injuries and medical attention*—in 18 cases, the inmate suffered a minor weapon-related injury resulting from push-stun deployment or probe penetration. In seven cases, one or more Corrections Branch officers suffered minor (5) or unrecorded (2) injuries.
- *Compliance with policy*—in all but one case, proper authorization was obtained before a conducted energy weapon was deployed. In six cases, completed use-of-force reports were not available for review (although video

PART 7: INCIDENCE OF CONDUCTED ENERGY WEAPON USE
IN BRITISH COLUMBIA

recordings were). Out of 27 cases in which a conducted energy weapon was actually discharged, no video recording was made in six cases, while in 14 other cases the video recording could not be produced or did not work properly.

Part 8

Recent Reports on Conducted Energy Weapon Use

PART 8: RECENT REPORTS ON
CONDUCTED ENERGY WEAPON USE

PART 8: RECENT REPORTS ON CONDUCTED ENERGY WEAPON USE

A.	RECENT REPORTS ON CONDUCTED ENERGY WEAPON USE.....	185
1.	<i>TASER Technology Research Paper</i> —Canadian Police Research Centre, September 2000.....	185
2.	<i>TASER Technology Review & Interim Recommendations</i> —Office of the BC Police Complaint Commissioner, September 2004	188
3.	<i>TASER Technology Review—Final Report</i> —Office of the BC Police Complaint Commissioner, June 14, 2005	190
4.	<i>Review of Conducted Energy Devices</i> —Canadian Police Research Centre, August 22, 2005	192
5.	<i>RCMP Use of the Conducted Energy Weapon (CEW)—Interim Report</i> —Commission for Public Complaints Against the RCMP, December 11, 2007	195
6.	<i>RCMP Use of the Conducted Energy Weapon (CEW)—Final Report</i> —Commission for Public Complaints Against the RCMP, June 12, 2008	198
7.	<i>Study of the Conductive Energy Weapon—TASER</i> —Standing Committee on Public Safety and National Security, June 2008	200
8.	<i>An Independent Review of the Adoption and Use of Conducted Energy Weapons by the RCMP</i> —Compliance Strategy Group, June 5, 2008	203
9.	<i>The Use of the Conducted Energy Device by Law Enforcement Agencies in Nova Scotia</i> —Advisory Panel to the Minister of Justice, June 30, 2008.....	204
10.	<i>My Brother's Keeper: A Review of Electronic Control Devices in Saskatchewan Correctional Centres Housing Male Inmates</i> —Saskatchewan Ombudsman, July 29, 2008	206
11.	<i>Report on Conducted Energy Weapons</i> —Ontario Association of Chiefs of Police, October 2008	207
12.	<i>Use of TASER Weapons by New South Wales Police Force</i> —New South Wales Ombudsman, November 2008.....	208
13.	<i>Investigation of the Orange County Sheriff's Office Use of Conducted Energy Devices</i> —U.S. Department of Justice, Civil Rights Division, August 2008	210
14.	<i>Position Document on Conducted Energy Weapons (CEWs)</i> —Canadian Association of Chiefs of Police, and Canadian Police Association, February 24, 2009	211

PART 8: RECENT REPORTS ON
CONDUCTED ENERGY WEAPON USE

A. RECENT REPORTS ON CONDUCTED ENERGY WEAPON USE

In the 10 years since conducted energy weapons were first introduced into Canadian policing, much has been written about how they work, their effectiveness, the medical risks, and the policies that should prescribe their deployment.

In this part I will summarize, chronologically, the most significant Canadian and international reports.

1. *TASER Technology Research Paper*—Canadian Police Research Centre, September 2000

In December 1998, the Victoria Police Department commenced a six-month field study of a Tasertron TASER conducted energy weapon. During the test period it was deployed 14 times: nine times in probe mode (causing incapacitation) and five times through the threat of use or using the laser sights on the subject. In response to numerous requests for information from other law enforcement agencies about the use of conducted energy weapons, Sgt. Darren Laur prepared this Report, which was published by the Canadian Police Research Centre.

The majority of the report compared and contrasted the various products of two conducted energy weapon manufacturers, Tasertron and TASER International. The information relied upon in this Report was gathered from research on two manufacturers, from law enforcement agencies, and from conducted energy weapon technology experts from the United States.

The author began the section on “Medical Research” by stating: “To say that TASER pulse wave technology has been over-studied by the medical community would be an understatement.”¹²¹ After acknowledging that heart attacks, long-term seizure activity, and the potential to cause pacemakers to fail had been hypothesized, the author concluded:

¹²¹ *Ibid.*, see footnote 98, p. 6.

To date, all medical research involving the TASER has found that, when used on a normally healthy adult, the electrical current, supplied by a TASER with 50,000 volts and 5 watts, is extremely safe to use, and will not affect cardiac muscle, will not affect pacemakers, or cause long-term seizures.¹²²

The report also referenced Dr. Harrison (a research professor in the Department of Electronics at Carleton University, Ottawa) who, after reviewing all pertinent technical information, recommended the weapon as an alternative to “more lethal ways of controlling violent subjects.”¹²³ To the same effect, Dr. Hendry (co-director of the Pacemaker Clinic at the University of Ottawa’s Heart Institute) concluded, after a review of all the American medical research available on conducted energy weapon technology, that the weapon “appears safe for its use in controlling violent offenders.”¹²⁴

Although the report did note the existence of serious injuries sustained as a result of conducted energy weapon deployment (*e.g.*, blunt trauma from falling, probe penetration to eye, and the weapon’s electrical current igniting subjects who were soaked in flammable liquid), the report emphasized that there had never been a death directly related to the current used by the weapon. The author concluded: “It cannot be emphasized enough that the TASER pulse wave technology weapons ... have been medically proven to be safe when used on normal healthy subjects.”¹²⁵

The remainder of the report compared and contrasted three conducted energy weapon models manufactured by Tasertron, and one model manufactured by TASER International. The review covered weapon strength and weaknesses, training materials, laser lighting systems, device and cartridge durability, electric arc penetration, wind deviation, power supply, liability insurance, warranty, and product advertisements. While the weapons tested were similar in many ways, the product review suggested that the TASER International Air Taser (precursor to the M26 Model)

122 *Ibid.*

123 *Ibid.*

124 *Ibid.*

125 *Ibid.*, p. 7.

was the superior product, particularly in terms of durability, dart accuracy and stability, and electric current penetration.

The author reached these conclusions on the use of TASER technology:

- increased officer and subject safety;
- decreased officer and subject injuries;
- increased success with subjects immune to pain-compliance tactics;
- established as medically safe for “normal healthy adults”;
- medically established as having no effect on heart rhythms or pacemakers;
- electrical output well within safe levels for international and North American standards;
- no fatalities directly related to conducted energy weapons;
- extensively field tested over 20-year operational history;
- morally and legally responsible less lethal option;
- not reliant on pain-compliance tactics; more humane use-of-force option;
- target specific (accurate and no cross-contamination concerns);
- decreased liability issues for management;
- laser sight acts as a deterrent;
- extremely cost effective; and
- maintenance free (TASER international model) or minimal maintenance (Tasertron models).¹²⁶

The paper concluded that both manufacturers offered “an extremely safe and effective less lethal option,” and endorsed the TASER less lethal system “as a necessity in the required multifaceted approach” to less lethal use-of-force options.¹²⁷

¹²⁶ *Ibid.*, pp. 26-27.

¹²⁷ *Ibid.*, p. 27.

2. *TASER Technology Review & Interim Recommendations*—Office of the BC Police Complaint Commissioner, September 2004¹²⁸

In 2004 a young man died after a conducted energy weapon was discharged against him in a Vancouver hotel. The BC Police Complaint Commissioner asked the Victoria Police Department to review the current use-of-force protocols and to make recommendations respecting the use of conducted energy weapons by police officers in British Columbia.

The report included a review of conducted energy weapon technology, tabulation of 4,600 weapon field uses based on data supplied by the manufacturer, usage data from the Edmonton, Alberta, and Victoria, BC, police departments, and a review of the medical literature (including “excited delirium”).

With respect to the analysis of field usage data, the report concluded that for each of the three data sources, the overall weapon effectiveness success rate was at least 90 percent.

The literature review concluded that conducted energy weapons were safe and effective, and that risk of death or serious injury was low. Some studies concluded that ventricular fibrillation or cardiac dysrhythmias were unlikely in healthy adults. Some studies cautioned that drug abuse, mental illness, and/or pre-existing heart conditions might increase risk of injury. Only one study expressed negative findings in respect of conducted energy weapons, concluding that these weapons were indeed capable of causing death, and that the electrical charge from the TASER M26 model fell into a range that might cause ventricular fibrillation 50 percent of the time.

During the medical literature review, numerous references to risk factors associated with in-custody deaths were noted, regardless of whether a conducted energy weapon had been utilized. Accordingly, the contributors undertook further research to determine what role, if any, these risk factors played in deaths proximal to conducted

128 B.C. Office of the Police Complaint Commissioner. *TASER Technology Review & Interim Recommendations* (Victoria: OPCC, 2004), available at <http://www.opcc.bc.ca/Reports/2004/Interim%20Taser%20Report%20and%20Recommendations.pdf>.

energy weapon usage. To complete this task, the Coroners Service provided summaries of restraint-associated deaths in British Columbia, and the researchers reviewed relevant research studies from North America and the United Kingdom.

The report determined that three specific groups of people appeared prone to sudden death proximal to restraint—those suffering from a psychiatric illness, chronic illicit stimulant users, or individuals with a combination of both factors. The report also noted common behaviours associated with “excited delirium,” including unbelievable strength, imperviousness to pain, hyperthermia, perspiration, aggression, hyperactivity, and incoherent shouting.¹²⁹ The report further noted that death proximal to restraint was not a phenomenon exclusive to law enforcement contexts; such deaths had also been experienced in psychiatric and geriatric facilities.¹³⁰

The report also found that current medical research had identified several medical concerns that might play a contributory role in sudden deaths proximal to restraint, including cocaine toxicity (that may cause the heart to be more susceptible to arrhythmia or cause delirium), metabolic acidosis (a disturbance of the body’s acid-base balance), catecholamine release (resulting in an abundance of catecholamines in the blood that can sensitize the heart and promote dysrhythmia), genetic susceptibility to cardiac arrhythmia, and face-down prone restraint.¹³¹

The report concluded that conducted energy weapons should be retained as an intermediate weapon in British Columbia, because appropriate use of the weapon “presents an acceptable level of risk to subjects being controlled.” It made the following specific recommendations:¹³²

- *Training*—there were significant inconsistencies throughout the province in the training of police officers, which should be remedied by creation of a standardized lesson plan/course training standard for conducted energy weapon users. This standard should be developed by the Justice Institute in consultation with use of force coordinators from municipal police

129 *Ibid.*, p. 50.

130 *Ibid.*, p. 45.

131 *Ibid.*, pp. 51-54.

132 *Ibid.*, pp. 55-56.

departments and the RCMP. The “core curriculum” would be delivered to all recruits and to all in-service weapon users.

- *Usage reporting*—not all law enforcement agencies in British Columbia required reporting of weapon deployments, or inadequately supervised reporting. An officer should be required to submit a use-of-force report after every push-stun or probe deployment, in a format created by the Justice Institute that allows for province-wide statistical analysis.
- *New acquisitions*—agencies purchasing new conducted energy weapon technology should acquire the TASER X26 rather than the M26, due to its enhanced data collection capabilities and lower electrical output.
- *“Excited delirium” training*—changing patterns of drug abuse made it likely that officers would encounter incidents of “excited delirium” more frequently. Consequently, the Justice Institute should create a standardized lesson plan/course training standard for “excited delirium,” to be delivered to all recruits and in-service members, regardless of rank, in British Columbia.
- *Restraint protocols*—although medical evidence remained inconclusive, there did appear to be a linkage between restraint positions and enhanced risk to arrested subjects. Consequently, the use of the maximal restraint position (where handcuffs and ankles were bound behind the back) should be eliminated. Instead, a hobble restraint, a wrap restraint, or other similar device should be used, subject to appropriate training.

3. *TASER Technology Review—Final Report—Office of the BC Police Complaint Commissioner, June 14, 2005*¹³³

In this follow-up report, the authors discussed officer training injuries, recent studies and reports, the findings of the investigative team’s medical review panel, and recently identified medical contra-indicators. I will discuss each in turn:

- *Officer training injuries*—officers have typically received a 1–2 second discharge as part of conducted energy weapon training. However, there is mounting evidence of the risk of injury from such exposures, including secondary injuries (*e.g.*, from probe penetration or from falling), as well as musculoskeletal injuries caused by powerful muscular contractions.
- *Recent studies and reports*—two recent studies found that adequate margins of safety exist pertaining to ventricular fibrillation and that it is unlikely to be a risk. A third study conducted by the Air Force Research

133 BC Office of the Police Complaint Commissioner. *TASER Technology Review: Final Report* (Victoria: OPCC, 2005), available at <http://www.opcc.bc.ca/Reports/2005/Taser%20Report.pdf>.

Laboratory demonstrated that very lengthy exposures (three minutes of five seconds on, five seconds off) had significant impact on the blood's acid-base balance, suggesting that police should minimize multiple applications where possible. Further research involved mapping the path of a conducted energy weapon's electrical current through the body of pigs, effectiveness and risks of M26 and X26 models, effectiveness of various other lower lethal use-of-force options, and the electrical risks of conducted energy weapons and delayed ventricular fibrillation.

- *Medical review panel*—the investigative team brought together experts in forensic pathology, cardiology, forensic psychiatry, and emergency medicine, as well as an advanced life support paramedic, to review the research material, to discuss current research on conducted energy weapons, and to identify relevant issues for further study. There was consensus among the medical group that:
 - Sudden and unexpected death proximal to restraint is caused by a variety of factors, not a single precipitating issue. Risk factors identified included significant amounts of acidosis which affect cardiac contractility, respiratory muscle impairment, rhabdomyolysis (the destruction of skeletal muscle tissue [from traumatic injury and/or excessive exertion] that is accompanied by the release of muscle cell contents into the bloodstream), hypoglycemia, and high levels of adrenaline.

The panel concluded that “excited delirium” is not a single entity, but rather a symptom cluster that occurs frequently in hospital settings. Cocaine and methamphetamine can overstimulate already delirious patients, causing death even without the intervention of conducted energy weapons or other lower lethality weapons.

- *Medical contra-indicators*—it appears likely that the muscular tetany produced by a conducted energy weapon deployment could impair a subject's respiration, which could affect carbon dioxide and pH levels. These effects could be expected to increase with repeated five-second discharges. Applying physical restraint in these circumstances is particularly dangerous, because it restricts the subject's ability to breathe, which is critical as the body tries to return to homeostasis and compensate for increased carbon dioxide levels. Officers should also exercise caution before deploying a conducted energy weapon against a pregnant woman or against people with a low body mass, such as children or the elderly.

The report did not contain formal recommendations, but included some “general guidelines”:

- Musculoskeletal injuries may occur during conducted energy weapon training of officers, and consequently, law enforcement agencies need to revisit the issue of mandatory exposure.
- Training protocols should reflect that multiple applications, particularly continuous cycling of the conducted energy weapon for periods exceeding 15-20 seconds, may increase the risk to the subject and should be avoided where practical.
- A single weapon application made before the subject has been exhausted, followed by a restraint technique that does not impair respiration may provide the optimum outcome.
- Subject to situational factors, conducted energy weapons should not be used against subjects who are demonstrating only passive resistance.
- For subjects displaying active resistance (*i.e.*, those resisting an officer's efforts to be taken into custody without attacking the officer), where the officer believes it is appropriate to use a conducted energy weapon, it may be used in push-stun mode only.
- In situations of active resistance,¹³⁴ assaultive resistance, or the threat of grievous bodily harm or death, where the officer believes that the use of a conducted energy weapon is appropriate, it may be used in either push-stun or probe mode.

The report also advocated for the creation of a Provincial Use of Force Coordinator, who would be responsible for evaluating and assessing both new and existing technology and ensuring that agencies have access to best practices for all use-of-force options.

4. *Review of Conducted Energy Devices*—Canadian Police Research Centre, August 22, 2005¹³⁵

At the request of the Canadian Association of Chiefs of Police, the Canadian Police Research Centre (the “Centre”) conducted a review of the existing scientific research and data respecting conducted energy weapons, and provided a national perspective on the safety and use of such weapons. The Centre collaborated with representatives

¹³⁴ It would appear to have been an inadvertent error to include “active resistance” in this paragraph, since the preceding paragraph restricted use of a conducted energy weapon to push-stun mode against a subject displaying active resistance.

¹³⁵ Manojlovic, Drazen, et al., *Review of Conducted Energy Devices* (Ottawa: CPRC, 2005), available at <http://www.css.drddc-rddc.gc.ca/cprc/tr/tr-2006-01.pdf>.

from the Victoria Police Department who, as discussed earlier in this part, were concurrently conducting a study for the BC Police Complaint Commissioner.

The intent of this Report was to provide guidance and assistance for police agencies in reviewing current usage, and to assist in the development of future training programs, policies, and procedures. The review focused on three areas: medical safety, policy considerations, and “excited delirium.”

With respect to *medical safety*, the Centre examined 15 research studies and/or opinions, which it classified as vendor-sponsored, independent, or ongoing. In an effort to prevent duplication, the Centre relied upon and summarized the findings of the Victoria Police Department’s interim and final reports (summarized above). The contributors to the Centre’s report found that conducted energy weapons “are effective law enforcement tools that are safe in the vast majority of cases.”¹³⁶ Based on the existing research, the Centre concluded that:

- Definitive research or evidence does not exist that implicates a causal relationship between the use of conducted energy weapons and death.
- Existing studies indicate that the risk of cardiac harm to subjects from a conducted energy weapon is very low.
- “Excited delirium,” while not a universally recognized medical condition, is gaining increasing acceptance as a main contributor to deaths proximal to conducted energy weapon use.
- The issue related to multiple conducted energy weapon applications and its impact on respiration, pH levels, and other associated physical effects, offers a plausible theory on the possible connection between death, conducted energy weapon use, and people exhibiting the symptoms of “excited delirium.”

With respect to *policy considerations*, the Centre reviewed data from weapon usage in four North American jurisdictions, concluding that when conducted energy weapons are used, there are fewer officer and subject injuries, less use of lethal force, and less use of other force options. It noted that conducted energy weapons are classified as intermediate weapons within the National Use of Force Framework (which means that

¹³⁶ *Ibid.*, p. ii.

they may be deployed when an officer is confronted with active resistance), and then added, “it would be unwise and counter-productive for any police service or government body to develop policies and procedures that explicitly specify in what kinds of circumstances a CED may or may not be used.”¹³⁷ The report stated that there is no question that “the use of CEDs can and has saved many lives.”¹³⁸ It concluded that:

- Use of conducted energy weapons is related to a decrease in the use of lethal force in some jurisdictions, and it is also related to substantial decreases in officer and subject injuries.
- While originally marketed and accepted as an alternative to lethal force, the use of conducted energy weapons has grown to include incidents where intermediate (but not lethal) weapons should be used.
- Although each use-of-force incident needs to be judged separately, for the most part the increased use of conducted energy weapons in non-lethal incidents is appropriate.
- Law enforcement agencies should give thoughtful consideration to developing conducted energy weapon usage reporting procedures, forms, or databases.
- It would be unwise and counterproductive to develop policies and procedures that explicitly specify in what kinds of circumstances a conducted energy weapon may or may not be used. Notwithstanding this conclusion, police officers need to be aware of the adverse effects of multiple consecutive cycles on a subject, or of deploying a weapon on a subject’s head, neck, or genitalia, or in the presence of a flammable/explosive substance.
- There are no known, scientifically tested, independently verified, and globally accepted safety parameters for conducted energy weapons. This is problematic, as it necessitates complete reliance on the manufacturer’s claims pertaining to product safety. Because of the lack of safety parameters, agencies are ill-equipped to respond to technology advances.

With respect to “*excited delirium*,” the report notes that there is no unifying diagnosis; instead, there is a cluster of signs and symptoms collectively forming the condition. The report suggests that persons exhibiting signs of “excited delirium” should be restrained as soon as practicable in order to commence treatment and avoid any risks of the subject progressing to a state of exhaustion. The report urges that

¹³⁷ *Ibid*, p. 27.

¹³⁸ *Ibid.*, p. 25.

police officers should be trained to involve medical emergency personnel early in the restraint process, preferably immediately after successful restraint, to attempt to mitigate subject risk. The report also reviews several theories associated with “excited delirium” and in-custody deaths, including asphyxia, cardiac dysrhythmia, metabolic acidosis, and dopaminergic dysfunction. With respect to conducted energy weapons as a possible cause of death, the report states that current research focuses on a variety of proposed but unproven mechanisms and that the causative theories are speculative.

5. *RCMP Use of the Conducted Energy Weapon (CEW)—Interim Report—Commission for Public Complaints Against the RCMP, December 11, 2007*¹³⁹

In November 2007 the federal Minister of Public Safety requested that the Commission for Public Complaints Against the RCMP (“RCMP Commission”) review the RCMP’s protocols on the use of conducted energy weapons and their implementation, including compliance with such protocols. This interim report identifies and reviews significant Canadian studies, the RCMP’s use-of-force model, its policy implementation and training, and conducted energy weapon-related complaints.

The RCMP Commission reported that the RCMP first authorized use of conducted energy weapons in 2001, and there are currently 2,840 weapons in use across Canada. It asserted that police departments must justify to the public why particular weapons and strategies are necessary for officers to perform their lawful duties, but there had been inadequate collection and analysis of empirical data. In the absence of such information and administrative control, the use of conducted energy weapons should be tightly controlled and supervised. In the RCMP Commission’s view, the conducted energy weapon should be re-designated from an intermediate device to an impact weapon, until empirical data is submitted to the RCMP Commission that clearly demonstrates that a broader use of the weapon is in the best interest of officer and

139 Canada. Commission for Public Complaints Against the RCMP, *RCMP Use of the Conducted Energy Weapon (CEW): Interim Report* (Ottawa: CPCRCMP, 2008), available at http://www.cpc-cpp.gc.ca/prr/inv/cew-ai/cew_ai_int_rp-eng.aspx.

public safety. According to the RCMP's Incident Management/Intervention Model, an intermediate device may be used when an officer is confronted with resistant behaviour, but an impact weapon may be deployed only in the case of combative behaviour.

The RCMP Commission reported that since 2001 it had received 138 conducted energy weapon-related complaints, and 62 percent of them originated in British Columbia. In resolution of the complaints, some adverse findings were made against members—most commonly that the member failed to properly assess subject behaviour, particularly when presented with resistant behaviour. In the RCMP Commission's view, the RCMP should distinguish between "passive resistance" and "active resistance," and that policy should be rewritten to clarify that resistance in and of itself does not justify the use of conducted energy weapons.

The RCMP Commission addresses issues of "excited delirium," and highlights the current view that those individuals exhibiting such symptoms must be quickly subdued so as to receive immediate medical attention. RCMP policy states, "In considering intervention options for excited delirium cases, the use of the CEW in probe-mode deployment may be the most effective response." However, the RCMP Commission does not view conducted energy weapons as the preferred option for dealing with individuals exhibiting behaviours associated with "excited delirium" unless the behaviour is combative or poses a risk of death or grievous bodily harm. "Excited delirium" should not, in and of itself, be justification for use.

In light of the literature reviewed, the report concludes that available research generally indicates that regardless of the type of restraint, death can occur (*i.e.*, sudden in-custody death is not a phenomenon unique to conducted energy weapon usage), and that the studies tend to support the assertion that such weapons are typically safe when used on healthy adults. The report notes, however, a lack of research into the negative effects that conducted energy weapon exposure may have on vulnerable subjects. Thus, there is a need for further research and empirical data collection, focusing on the following issues:

- conducted energy weapon use, the infliction of pain, and the measurement of such pain;
- appropriateness of conducted energy weapon application in comparison to other use-of-force techniques;
- conducted energy weapon use against vulnerable or at-risk populations;
- alternate use-of-force options for individuals exhibiting symptoms of “excited delirium;”
- conducted energy weapon use, “excited delirium,” and sudden death within rural or northern geographical areas; and
- connections between conducted energy weapon use, “excited delirium,” and the chance of death.

The RCMP Commission’s review of RCMP policy found that, over time, one could see an evolution of the policy which broadened acceptable usage by leaving the assessment of appropriate use to the member in the context of the Incident Management/ Intervention Model, and outside of the scope of dedicated conducted energy weapon policy. While initial policy contained provisions outlining when the weapon could be used (*e.g.*, to subdue individuals who resist arrest, are combative, or suicidal) and when deployment was prohibited (*e.g.*, for crowd control), over time weapon use has expanded to include subduing subjects who exhibit behaviours that are clearly non-combative or who are not actively resisting—evidence of “usage creep.”

The RCMP Commission also found inadequate reporting and data collection. Six years after the weapons were first authorized for use, the RCMP has never conducted a cursory, let alone a comprehensive, review of deployment incidents. Current RCMP policy for conducted energy weapon deployment has evolved without adequate reference to the realities of its use by the RCMP.

The RCMP Commission’s recommendations included the following:

- The conducted energy weapon should be reclassified as an impact weapon, allowing for use only when a subject is behaving combatively or posing a risk of death or grievous bodily harm.
- When the subject appears to be experiencing the condition of “excited delirium,” the conducted energy weapon should be used only when the behaviour is combative or poses a risk of death or grievous bodily harm.

- Officers should be re-certified in conducted energy weapon use every two years.
- The RCMP should appoint a National Use of Force Coordinator.
- The RCMP should institute and enforce stricter reporting requirements on conducted energy weapon use.
- The RCMP should produce quarterly and annual reports on the use of conducted energy weapons.
- The RCMP should continue to be engaged in conducted energy weapon-related research looking at medical, legal, and social aspects of the weapon's use.

6. *RCMP Use of the Conducted Energy Weapon (CEW)—Final Report—Commission for Public Complaints Against the RCMP, June 12, 2008*¹⁴⁰

In the months following release of the RCMP Commission's *Interim Report*, the RCMP implemented several of the RCMP Commission's recommendations, such as creation of a National Use of Force Coordinator position and institution of annual re-certification for officers using conducted energy weapons. However, the RCMP rejected the RCMP Commission's recommendation to reclassify the weapon from an intermediate device to an impact weapon. Instead, it amended policy to authorize deployment against subjects displaying active resistance or higher. The RCMP also maintained its position that a conducted energy weapon is the best option to gain control over subjects exhibiting symptoms of "excited delirium."

In its *Final Report*, the RCMP Commission stated that the "principle of proportionality" had guided its work. Central to the debate over conducted energy weapon use is the principle that decisions around when to deploy the weapon should be based on the principle of proportionality (*i.e.*, the amount of force used should bear some reasonable relationship to the threat the member is facing and its impact on public safety). The RCMP Commission then articulated three continuing interrelated concerns:

140 Canada. Commission for Public Complaints Against the RCMP, *RCMP Use of the Conducted Energy Weapon (CEW): Final Report* (Ottawa: CPCRCMP, 2007), available at http://www.cpc-cpp.gc.ca/prr/inv/cew-ai/cew_fin_rp-eng.aspx.

- The inappropriate assessment of a subject's behaviour has resulted in elevating the level of intervention beyond what was acceptable according to the RCMP's use-of-force model;
- The position of the conducted energy weapon on the use-of-force model permits deployment far too early in police encounters; and
- RCMP data collection and analysis practices for the conducted energy weapon usage database are ineffective and inefficient.

The RCMP Commission undertook an extensive analysis of RCMP weapon usage, based on its conducted energy weapon database. It identified 4,234 usage reports, but when it attempted to match those reports to citizen complaints that the RCMP Commission had received respecting inappropriate weapon deployment, it concluded that there was extensive systemic under-reporting.¹⁴¹ Even when reports had been made, the RCMP Commission concluded that the RCMP's supervision to ensure proper weapon deployment was faulty.

The RCMP Commission examined the policies in place in several Canadian, American, and Commonwealth jurisdictions respecting the threshold of subject behaviour that must be present before use of a conducted energy weapon is justified. While most Canadian agencies classify the weapon as an "intermediate weapon" (in which case use is justified in the face of active resistance), some agencies restrict the use of these weapons to specialized units or higher-ranking officers. Internationally, several Commonwealth jurisdictions require evidence of assaultive behaviour or serious violence or threats. None of the policies reviewed by the RCMP Commission dealt substantively with weapon deployment against vulnerable groups, although individuals suffering from a mental illness and/or substance abuse represent a disproportionate amount of police intervention and have an increased statistical likelihood of death.

The RCMP Commission's recommendations included the following:

141 A mini-audit conducted to confirm the robustness and accuracy of the RCMP's database showed that of the 76 complaints received by the Commission pertaining to conducted energy weapon deployment, only 24 incidents reports were located (*i.e.*, 68 percent of incidents had not been reported). Further, no reports were discovered for the 28 complaints relating to *threatened* conducted energy weapon deployment.

- The conducted energy weapon should be classified as an impact weapon, and used only in situations where the subject is combative or poses a risk of death or grievous bodily harm, and the same threshold should apply to subjects who appear to be experiencing the condition of “excited delirium.”
- Officers who deploy a conducted energy weapon should in all circumstances seek immediate medical attention for the subject.
- The RCMP should immediately implement clear operational guidelines around conducted energy weapon use against at-risk populations.
- Conducted energy weapons may be used by specialized response teams without restriction, but otherwise the use of such weapons should be restricted as follows:
 - In urban settings, conducted energy weapons should be used only by officers with the rank of corporal or above; and
 - In rural settings, such weapons should be used by constables only if they have at least five years of operational experience.
- The RCMP must provide more robust reporting of conducted energy weapon usage.

The RCMP Commission concluded that while the conducted energy weapon has a place in the RCMP’s arsenal, it is conditional on the RCMP’s acceptance and implementation of the RCMP Commission’s recommendations. If the RCMP cannot account for the use of this weapon and properly instruct its members to deploy it appropriately in an operational setting, then use of the weapon should be prohibited until proper and strict accountability and training measures are fully implemented.

*7. Study of the Conductive Energy Weapon—TASER—Standing Committee on Public Safety and National Security, June 2008*¹⁴²

In November 2007, the House of Commons’ Standing Committee on Public Safety and National Security (the “Standing Committee”) commenced a review of conducted energy weapon technology, the effects of this technology on the health and safety of persons subjected to it, its role in police work, and the guidelines governing its use by the RCMP.

142 Canada. Standing Committee on Public Safety and National Security, *Study of the Conductive Energy Weapon—TASER®* (Ottawa: Communications Canada, 2008), available at http://www2.parl.gc.ca/Content/HOC/Committee/392/SECU/Reports/RP3582906/392_SECU_Rpt04_PDF/392_SECU_Rpt04-e.pdf.

The Standing Committee travelled across the country, and heard from experts in medicine, biomedical engineering, and ethics; from the manufacturer; from the policing community; and from concerned community groups and individuals.

Consistent with information presented in other reports, the Standing Committee heard evidence that no direct link between conducted energy weapons and death has been established. It heard that “excited delirium” is a medical emergency necessitating swift medical attention. Some witnesses advocated use of a conducted energy weapon to defuse the situation and facilitate restraint of the subject, while others countered that this response could precipitate a myocardial crisis.

The Standing Committee heard that while restraint methods have evolved over the years, the characteristics of those dying in custody have not, and that a theory may account for in-custody deaths, regardless of the restraint technique. According to this theory, when individuals are experiencing “excited delirium” they have elevated levels of adrenaline and potassium in their blood. As they become exhausted, the potassium level drops suddenly while the adrenaline remains high, permitting the toxic effects of increased adrenaline to induce arrhythmia.

Witnesses told the Standing Committee that an autopsy will not reveal whether there has been cardiac arrhythmia or whether an electrical current has passed through the body. It was also suggested that ventricular fibrillation is only probable when probes are placed to bracket the heart, as experienced in swine studies. The Standing Committee’s report notes, however, that it is generally agreed that the closer the probes are to the heart, the greater the cardiac risk.

The Standing Committee outlined several shortcomings regarding usage regulations, training, research transparency, and accountability. The Standing Committee found that conducted energy weapon policy is too permissive in light of the concerns raised in scientific research, recognized knowledge gaps, and the lack of independent, peer-reviewed research. It also found deficiencies in mental health and addiction training, and in the availability of mental health and addiction services to assist officers who

are dealing with subjects apparently under the influence of drugs/alcohol or who are suffering from mental illness.

The Standing Committee observed that current research is conducted in police circles, and is neither independent nor peer reviewed. It is essential that independent research be encouraged; a clear recognition of a need for scientific studies. It also noted concerns surrounding the RCMP's public accountability—the RCMP must meet a high standard of transparency and accountability. For example, it was unacceptable that the RCMP has not compiled and analyzed data on conducted energy weapon usage since the weapon was introduced in 2001.

The Standing Committee's recommendations included the following:

- The RCMP should reclassify the conducted energy weapon as an impact weapon, limiting its use to situations where the subject is displaying assaultive behaviour or is posing a threat of death or grievous bodily harm. Further:
 - This restriction should not be lifted until independent research indicates that the use of the weapon does not pose unreasonable risk to the subject, and
 - If the RCMP does not implement this recommendation by December 2008, the Standing Committee will recommend to the House of Commons an immediate moratorium on the RCMP's use of conducted energy weapons.
- The RCMP should revise its policy to include clear and strict usage guidelines (as is the case for firearms) with clear restrictions on multiple discharges.
- The RCMP should improve the training of its members on mental health and addiction issues.
- The RCMP should make use of psychiatric support staff to assist them when an intervention is expected to involve a person suffering from mental illness or drug addiction.
- The Government of Canada should:
 - encourage three federally subsidized research councils to fund scientific research into conducted energy weapon technology and use-of-force methods; and
 - commission independent scientific studies on conducted energy weapon safety.

- Statistics Canada should be given the mandate to create and manage databases on in-custody deaths and on the use of conducted energy weapons and other restraint methods.
- The RCMP should include in its annual report to Parliament data on the use of conducted energy weapons and other use-of-force methods.

8. *An Independent Review of the Adoption and Use of Conducted Energy Weapons by the RCMP—Compliance Strategy Group, June 5, 2008*¹⁴³

Given the controversy surrounding the use of conducted energy weapons after the death of Robert Dziekanski at the Vancouver International Airport in October 2007, the Commissioner of the RCMP ordered an independent review of the policy decisions involved in adoption and deployment of the weapon, the validity and reliability of information used to make these decisions, and the adequacy of the operational procedures, training practices, and accountability mechanisms developed to ensure effective and safe use of the weapon by members of the RCMP.

The researchers reviewed the decision-making processes that led to the RCMP's introduction of the weapon in 2001. One of the rationales was the fact that 80 percent of RCMP officers serve in rural or isolated areas, policing alone with limited supervision resources and little or no backup. They were critical of the RCMP's incomplete literature review, over-reliance on information supplied by the manufacturer, too much consideration given to anecdotal information from police officers, and limited outside consultation.

Some of the issues discussed in the report include the following:

- *Testing of conducted energy weapons*—testing of the weapon appears to be a major gap, in terms of implementation and accountability. No government departments or agencies are responsible for ensuring that the weapon meets the manufacturer's specifications.
- *Use-of-force model*—because the situations police face are fluid and volatile, there should be a greater focus on training officers in subjective threat assessment, situation control, de-escalation techniques, and

143 Kiedrowski, John, *An Independent Review of the Adoption and Use of Conducted Energy Weapons by the Royal Canadian Mounted Police* (Ottawa: Compliance Strategy Group, 2008). An executive summary is available at <http://www.RCMP-grc.gc.ca/ccaps-spcca/cew-ai/kiedrowski-report-rapport-eng.htm>.

determining appropriate sequential modes of response to threat cues and situational constraints.

- *Training*—the relationship between the police services and the manufacturer needs to be examined regarding transparency and accountability in matters of training and standards for appropriate use. There is a need to coordinate the approach to conducted energy weapon training and consult experts to design and help develop the course material.
- *Medical safety literature*—one can reasonably conclude that there is no inherent causal link between weapon application and serious injury in normal healthy subjects. Nonetheless, there are genuine risks that need to be taken into account. The existence of such risks does not necessitate prohibition of the weapon, but the risks do call for the development of policies and procedures based on an appropriate model of risk assessment and risk management that would consider the imminence and gravity of possible harm to officers, subjects, and bystanders.
- *“Excited delirium”*—the concept of “excited delirium” serves police interests as an exculpatory explanatory device absolving officers of the responsibility to use the least intrusive, least harmful means necessary to protect the public and themselves.

9. *The Use of the Conducted Energy Device by Law Enforcement Agencies in Nova Scotia*—Advisory Panel to the Minister of Justice, June 30, 2008¹⁴⁴

In March 2008, the Nova Scotia Minister of Justice and Attorney General appointed an advisory panel to review a report on conducted energy weapon use in the province, and to advise the minister about future use of the weapon. The panel’s report included discussion of the following issues:

- *Safety of the conducted energy weapon*—laboratory research on human subjects has demonstrated no clinically significant or lasting changes in cardiovascular or metabolic function, from which the panel concluded that the risk of death or serious injury associated with use of the weapon is low. However, the panel was concerned that some of the research was neither independent nor methodologically sound. It recommended that the minister appoint a panel of scientific experts to critically and systematically review, annually, the new scientific evidence on weapon safety and recommend policy changes that should be considered.

144 Nova Scotia. Dept. of Justice, *Report of the Advisory Panel to the Minister of Justice on the Use of the Conducted Energy Device by Law Enforcement Agencies in Nova Scotia* (Halifax: The Dept., 2008), available at http://www.gov.ns.ca/just/global_docs/CED_2_20080630.pdf.

- *Data regarding weapon use*—many questions relevant to policy formulation cannot be answered because there is no central depository of data. The panel recommended creation of a provincial database to permit a comprehensive review of all use-of-force incidents, and submission to a national body of information on use-of-force incidents in all provinces and territories.
- *Assessment of use-of-force devices*—the province should establish standards for all use-of-force devices, and monitor emerging use-of-force technologies. Federal, provincial, and territorial authorities should establish a mechanism to ensure an independent, rigorous assessment of the risks and benefits of any device to be used by law enforcement that has the potential for causing harm.
- *Appropriate use of the weapon*—the department should examine the nature of weapon use in the province, with a view to establishing a more prescriptive set of provincial use-of-force standards and procedures. In the interim, conducted energy weapon use should be restricted to situations of “violent or aggressive resistance or active threat that may cause serious injury” to the officer, subject, or public.
- *“Excited delirium”*—the panel does not believe it is useful to stipulate the specific diagnosis for “excited delirium” in policy, but rather to define the behaviour (*i.e.*, agitated, aggressive, irrational conduct) as requiring immediate medical attention. More research is needed to determine the risks associated with various means of restraining individuals displaying these symptoms, leading to the development of a training program for law enforcement officers responding to individuals suffering from mental illness.
- *Training*—the department should establish a provincial use-of-force training standard, ensure that all conducted energy weapon operators are certified according to this standard, and conduct audits to ensure adherence to the standard.
- *Public accountability*—a new provincial Law Enforcement Review Commission should be established, to conduct hearings into complaints about use of force, to audit law enforcement agencies’ use-of-force policies and practices, and to report annually to the public on use of force.

10. *My Brother's Keeper: A Review of Electronic Control Devices in Saskatchewan Correctional Centres Housing Male Inmates—*
Saskatchewan Ombudsman, July 29, 2008¹⁴⁵

In November 2007, the Saskatchewan Ombudsman commenced a review of the Ministry of Corrections' use of conducted energy weapons in its adult male correctional centres. He identified several concerns about research conducted to date, including lack of rigorous and independent scientific/medical research about the effects of these weapons on humans, the preponderance of research on animals whose results cannot reliably be extrapolated to humans, and reliance on non-representative subjects in human studies. He identified unknown factors and cautions associated with weapon use, including lack of empirical data about the level of pain caused, the acute and long-term psychological impacts, the risks of exposure to vulnerable groups, and the cumulative effects of other non-lethal interventions (*e.g.*, physical restraint) in combination with weapon use.

The Ombudsman made 21 recommendations, including the following:

- Convene a multidisciplinary panel, including medical practitioners versed in the potential effects of weapon technology, to review the available research, paying special attention to the effects on vulnerable populations.
- Review the placement of the weapon in the ministry's use-of-force management model.
- If the ministry decides to authorize use of the weapon in correctional centres:
 - Place it in the impact weapon category.
 - Provide training to its entire medical services staff (nurses and doctors) about the technology and its potential health effects.
 - Ensure that local community hospitals are provided with information about the technology and its potential health effects.
 - Express and articulate the number and duration of applications of the X26 when used in stun mode.

145 Saskatchewan Ombudsman, *My Brother's Keeper: A Review of Electronic Control Devices in Saskatchewan Correctional Centres Housing Male Inmates* (Regina: Ombudsman, 2008), available at <http://www.ombudsman.sk.ca/pdf/ECD%20Report.pdf>.

- Accurately document the conditions under which the weapon may be used in presentation and stun modes.
- Specify initial cycle length, whether the initial cycle can be interrupted or is to be continuous, and how many additional cycles are allowed.

11. *Report on Conducted Energy Weapons*—Ontario Association of Chiefs of Police, October 2008¹⁴⁶

Representatives from 19 police services in Ontario, including the RCMP, attended a one-day information session to canvass current organizational practices and to consider a position that the association could advance regarding the use-of-force threshold, deployment, public reporting, training, and common nomenclature.

Subsequently, the executive of the association made six recommendations:

- *Use-of-force threshold*—given that public acceptance of the weapon is based on the understanding that it would only be used in more serious circumstances, it recommended that member services adopt the assaultive level of subject behaviour before the weapon may be deployed.
- *Deployment*—currently, weapons are issued only to uniformed platoon supervisors, acting supervisors, and tactical officers. The association should continue to advocate that the ministry authorize the expanded deployment of the weapon to uniformed primary (first) respond constables.
- *Accountability and reporting*—in the interest of maintaining public confidence, the association should recommend that, at a minimum, police services publicly provide to their police services boards a statistical report on the use of conducted energy weapons annually, and that the report include the number of times the demonstrated force presence mode was used.
- *Individual event reporting and data collection*—the potential benefits of collecting and reporting data on the usage of demonstrated force presence was worth the effort, and the executive agreed to develop a sample weapon report that police services could choose to use. The association should recommend to police services that they collect and report on the number of times the device was used in the demonstrated force presence mode.
- *Training*—the executive was comfortable with the manufacturer providing training on the features, handling, functionality, and maintenance of the weapon, but police services should deliver training on judgement, decision-

146 Ontario Association of Chiefs of Police, *Report on Conducted Energy Weapons* (Toronto: OACP, 2008), available at http://www.oacp.ca/upload5/pdfs/ced_OACP_report_rev_jc_Final_.pdf.

making, tactics, and the level of subject behaviour that justifies the use of force. The executive found no value in trainees experiencing the effects of the weapons, and would not endorse it. It recommended that the association make recommendations to the ministry to harmonize the duration and content of the weapon training and re-qualification curriculum.

- *Nomenclature*—the association and member services should avoid using the brand name TASER, and use instead the generic term “conducted energy weapon.”

12. *Use of TASER Weapons by New South Wales Police Force*—New South Wales Ombudsman, November 2008¹⁴⁷

The Ombudsman undertook this investigation into the use of conducted energy weapons by officers of specialist units in the New South Wales Police Force five years after the weapon was introduced. His purpose was to determine whether the policies, procedures, and training requirements were appropriate and comprehensive, whether weapon use was reasonable and effective, and whether weapon use complied with legal and policy requirements.

The Ombudsman’s review of materials from Australia and overseas raised several issues:

- There remains dissent in medical and scientific communities about whether conducted energy weapons can cause irregular heart rhythms, including ventricular fibrillation. While major studies have found that the risk of danger to the heart is low in healthy adults, there is less certainty respecting use of the weapon on people who may be particularly sensitive to exposure, such as pregnant women, the young and elderly, people with pre-existing medical conditions, and those affected by alcohol or drugs.
- There is no doubt that people have died after being subjected to weapon application, but there is dispute about the role of the weapon in either causing or contributing to these deaths.
- Weapon use is most appropriately limited to situations where a person’s behaviour is, at a minimum, combative or aggressive. The police should deal with people who are uncooperative or non-compliant (but not violent or aggressive) by other, less forceful means.

147 New South Wales. Ombudsman, *The Use of Taser Weapons by New South Wales Police Force* (Sydney, NSW: Ombudsman, 2008), available at <http://www.nswombudsman.nsw.gov.au/publication/PDF/specialreport/Special%20Report%20on%20use%20of%20Taser%20weapons%20by%20NSWPF.pdf>.

In New South Wales, authorized officers may use a conducted energy weapon to protect human life; as a less lethal option for controlling people where violent resistance or confrontation occurs or is imminent; if the officer is in danger of being overpowered or to protect the officer or others from injury; or for protection against animals. Following an analysis of the 48 occasions on which the weapon was deployed, the Ombudsman concluded:

- Weapon use by specialist units to manage high-risk incidents has been operating reasonably well.
- These weapons appear to have been a useful option for officers to achieve effective resolution of dangerous and high-risk matters.
- He was not aware of any instances in which a weapon was used in clear contravention of legal and policy requirements.
- In most instances weapons were used in a reasonable manner and an effective resolution of the incident was achieved by the officers involved.

The Ombudsman made several recommendations, including the following:

- *Education and training*—the New South Wales Police Force is overly reliant on information provided by the manufacturer. Further, officers should receive further training on how to effectively back up and support an officer who is deploying a weapon, and how to gain control of a situation if the weapon does not operate effectively.
- *Mental illness*—officers should receive training about mental health issues, including the most effective ways to communicate with people thought to be suffering from mental illness, and the most effective ways to de-escalate situations involving mentally ill people who are behaving in a violent or aggressive manner.
- *Subject behaviour threshold*—officers should not be authorized to deploy a conducted energy weapon against a person unless that person is violently confronting or resisting police.
- *Multiple deployments*—officers should be given further guidance about when it is and is not appropriate to subject a person to multiple or prolonged weapon applications, if and when it is appropriate to deploy in drive-stun mode, and more comprehensive information about potentially hazardous environmental factors that must be considered.
- *Vulnerable subjects*—officers should receive further guidance about if and when it is appropriate to subject the following people to a weapon application: people with mental illness, children, pregnant women, elderly

people, people affected by alcohol or drugs, people with a heart condition or implanted defibrillators, and Indigenous Australians.

- *Accountability*—there should be regular download and auditing of weapon data, comprehensive reporting by officers of each incident (including cases when the weapon was only drawn, aimed, or sparked as a deterrent), and annual reporting by the police force on weapon use.

13. *Investigation of the Orange County Sheriff's Office Use of Conducted Energy Devices*—U.S. Department of Justice, Civil Rights Division, August 2008¹⁴⁸

Following its review of the Orange County Sheriff's Office use of the conducted energy weapon, the federal Department of Justice's recommendations¹⁴⁹ for policy improvements included the following:

- The current standard of “active physical resistance” is an appropriate level of subject behaviour. “Passive resistance,” which should be defined to include persons who question an officer's commands in a non-violent and non-threatening manner, and persons who are non-violently participating in public protest, is insufficient to justify use of the weapon.
- Flight alone should not be the sole justification for deployment of the weapon. The officer should also consider the severity of the offence, any immediate threat to the safety of the officer or others, and the ability of the officer to arrest the subject safely without deployment of the weapon.
- Deployment against a subject who is handcuffed or otherwise restrained should be prohibited, unless the subject is exhibiting aggressive physical behaviour.
- Emergency medical personnel should be notified when it is anticipated that the weapon will be deployed against a subject.
- In the absence of exigent circumstances, simultaneous deployment of more than one conducted energy weapon against a subject should be prohibited.
- An officer should deploy the weapon for not more than one 5-second cycle before stopping to evaluate the situation, and policy should state that a full five-second deployment is often unnecessary to achieve compliance.

148 U.S. Dept. of Justice. Civil Rights Division, *Investigation of the Orange County Sheriff's Office Use of Conducted Energy Devices*, (Washington: The Dept., 2008), available at http://www.usdoj.gov/crt/split/documents/orangecty_ta_ltr.pdf.

149 Many of these recommendations are drawn from the Police Executive Research Forum's *Conducted Energy Device Policy and Training Guidelines for Consideration*, October 25, 2005, which is available at http://www.policeforum.org/upload/PERF-CED-Guidelines-Updated-10-25-05%5B1%5D_715866088_1230200514040.pdf.

- In the absence of exigent circumstances, an officer should not employ restraint techniques that will impair a subject's respiration.
- While it may be appropriate to use the manufacturer's training materials when discussing the basic functions and operation mechanics of the weapon, the sheriff's office should create its own training materials, scenario-based deployment and arrest drills, and testing procedures.
- Since the weapon is capable of inflicting great pain, and in rare instances is capable of contributing to death or serious bodily injury, officers should be trained to respect the weapon, with the same level of seriousness and professionalism as during a firearms course.

14. *Position Document on Conducted Energy Weapons (CEWs)*—Canadian Association of Chiefs of Police, and Canadian Police Association, February 24, 2009¹⁵⁰

The Canadian Association of Chiefs of Police (CACP) is formed of chiefs and senior police executives in all provinces and territories in Canada. Its membership of over 1,000 includes police serving in national, provincial, regional, municipal, and First Nations police agencies, as well as transportation and military police.

The Canadian Police Association (CPA) is the national centre for police labour relations. It represents 57,000 police personnel serving in 170 police services across Canada. It promotes the interests of front-line police personnel and the public, and supports its members in improving their conditions in collective bargaining, education and training, equipment, health and safety, and protecting members' rights.

At a joint news conference held in Ottawa on February 24, 2009, the two associations released a joint position document respecting conducted energy weapons that included the following:

- There is a risk associated with an officer's use of any force, which the police mitigate through effective policies, training, and use-of-force options.
- Conducted energy weapons are "intermediate weapons." They are a valuable use-of-force option available to police officers to reduce the risk of injury or death, and are not intended as a substitute for lethal force.

150 Canadian Police Association and Canadian Association of Chiefs of Police, *Position Document on Conducted Energy Weapons (CEWs)*, (Toronto: CPA, 2009), available at https://www.cacp.ca/media/news/download/674/CPA_position_on_CEW_en.pdf.

PART 8: RECENT REPORTS ON
CONDUCTED ENERGY WEAPON USE

- Conducted energy weapons are intended for use in situations where there is an imminent need for control and other options have been precluded, either because they were ineffective or would be inappropriate given the totality of circumstances in the situation.
- All police officers should be authorized to carry a conducted energy weapon.

At the news conference, the vice-president of the CACP stated that both associations have been actively engaged in examining the usage and effects of conducted energy weapons, and have reviewed the most current literature and research findings from technical and health perspectives. They took the step of releasing this position document out of concern that inaccurate and incomplete information is circulating in the media relating to the use of this weapon by police:

It is our view that the public may not understand how police make decisions on when to use force, and what the use-of-force options are that are available to police. The conducted energy weapon is only one tool among many, but it is a very valuable public safety tool for the community and police officers.¹⁵¹

The president of the CPA stated that an officer makes the decision to deploy a conducted energy weapon after assessing the totality of the situation—that is, what has happened in the minutes leading up to the situation, any known mental health issues, proximity of other people, and many other factors. What the public bystander sees is usually not the whole picture. He added:

The bottom line is that conducted energy weapons save lives. They enhance public safety and officer safety. It is our position that all police officers should be authorized to carry a conducted energy weapon. They should also be provided regular and adequate use-of-force training on the use of these weapons and other use-of-force options, to ensure that all officers understand and are competent in the application of force at all levels.¹⁵²

The representatives spoke in favour of moving toward a consistent reporting system for conducted energy weapon use, and for a national standard for the methodology and equipment to test weapons, to determine whether they are performing to the manufacturer's specifications.

¹⁵¹ *Ibid.*

¹⁵² *Ibid.*

Part 9

Medical Risks

PART 9: MEDICAL RISKS

A.	INTRODUCTION	217
B.	CARDIAC RISKS.....	219
1.	Immediate cardiac risks	219
a.	Ventricular fibrillation	219
b.	Myocardial infarction (heart attack).....	235
c.	Pacemakers and defibrillators.....	237
d.	Blood pressure	239
2.	Delayed cardiac risks.....	240
C.	RESPIRATORY RISKS.....	242
D.	METABOLIC RISKS	245
E.	MENTAL ILLNESS.....	246
1.	Police as first responders.....	246
2.	What psychiatrists and other medical experts told me.....	248
a.	Dr. Shaohua Lu.....	248
b.	Dr. Joseph Noone	252
c.	Dr. Maelor Vallance	255
d.	Dr. John Butt	257
e.	Dr. Christine Hall.....	258
f.	Dr. Michael Webster	259
g.	Canadian Mental Health Association, BC Division.....	260
3.	Conclusions	262
F.	SUBJECTS WITH OTHER VULNERABILITIES.....	264
1.	Young and/or physically small subjects.....	264
2.	Elderly subjects.....	265
3.	Pregnant women	265
G.	RISKS ASSOCIATED WITH HOW THE WEAPON IS USED	266
1.	External circumstances	266
2.	Mode of deployment	266
a.	Push-stun mode	266

	<i>b. Probe mode.....</i>	<i>267</i>
3.	Repetitive deployment	268
H.	THE IMPACT OF WEAPON USE ON INJURIES AND FATALITIES	272
1.	Introduction	272
2.	The experience in British Columbia	272
3.	Canadian studies.....	276
4.	International studies.....	276
5.	Deaths.....	279
6.	Observations	283

A. INTRODUCTION

Since 2003, eight people have died in British Columbia after a conducted energy weapon was deployed against them. Six of these died in municipalities policed by the RCMP, while two died in the city of Vancouver. In Canada as a whole, 25 have died, nine of whom have died since Robert Dziekanski died at the Vancouver International Airport on October 14, 2007. All 25 died either at the scene or soon thereafter, in police custody or while hospitalized.

According to Amnesty International, more than 300 people have died in similar circumstances in the United States.¹⁵³

The manufacturer has steadfastly maintained that its weapons are not responsible for these deaths. For example, when a Calgary man died in early November 2008 after a conducted energy weapon was deployed against him, the manufacturer's vice-president for communications was quoted as saying, "Not one coroner in Canada has ruled any death was caused by a Taser device or even contributory to date."¹⁵⁴

And yet, well over 300 people have died in North America in what has become known as "death proximate to TASER use." A scenario that repeats itself with troubling regularity finds a highly agitated and combative man who is unresponsive to an officer's commands subjected to one or more cycles of a conducted energy weapon. The man falls to the ground and, while incapacitated, officers restrain and handcuff him. Shortly thereafter the man lapses into unconsciousness, cannot be resuscitated, and is pronounced dead at the scene or upon arrival at the hospital.

When it is suggested that the conducted energy weapon caused the death, the manufacturer and local police force will frequently observe, correctly, that no physical evidence was found during the autopsy suggesting that the weapon's

¹⁵³ Oral submission by Hilary Homes during the Commission's public forums. Transcript, May 15, 2008, p. 31.

¹⁵⁴ As quoted in "Taser reaction 'near insanity'; Company vice-president says concerns over stun-gun safety overblown." *The Calgary Sun*, Wednesday, November 5, 2008, byline by Nadia Moharib, Sun Media.

electrical current triggered a heart attack or other cardiac or respiratory malfunction causing or contributing to the death. Rather, it may be suggested, death may be attributable to a phenomenon called “excited delirium,” that could have been brought on by a pre-existing mental illness and/or drug usage.

In such cases, the official cause of death is often ambiguous, police forces continue to deploy conducted energy weapons, and people keep dying. The debate rages on about whether conducted energy weapons are safe, or whether they should be banned or at least have a moratorium placed on their use until their safety can be established.

Because they transmit an electrical current into the body of the subject, conducted energy weapons occupy a unique position in the range of weapons available to police officers. They are clearly less lethal than firearms, yet the incidence of deaths proximate to their use suggests that they are potentially more lethal than more traditional intermediate weapons, such as batons, oleoresin capicum (pepper) spray, or rubber bullets.

Their uniqueness, coupled with the controversy stemming from so many proximate deaths, has attracted the professional attention of scientific and medical researchers, who seek answers to questions such as, “Can the electrical current interfere with the subject’s cardiac or respiratory systems?” “If so, can that interference cause or contribute to death?” “If so, can we ascertain the risk?”

Those are precisely the questions that legislators, policy-makers, and police forces need answered in order to decide the circumstances, if any, in which conducted energy weapon use should be authorized.

In this part, I will discuss the medical and scientific research that has been done in Canada and internationally on conducted energy weapons, and summarize what we know and do not yet know about the risks associated with their use. I profess no special expertise in this highly technical area. I am indebted to the many experts from across North America who made presentations during our public forums, and to our Commission’s medical researchers (under the guidance of Dr. Keith Chambers),

who undertook an exhaustive survey of the international academic literature. In the interests of transparency and to foster further understanding of these complex issues, a full bibliography of the literature surveyed is included in Appendix C and the complete text of those experts' presentations is available on the Commission's website.

B. CARDIAC RISKS

1. Immediate cardiac risks

a. Ventricular fibrillation

If conducted energy weapons cause or contribute to death, the most likely ultimate mechanism by which that occurs is ventricular fibrillation. The two lower chambers of the heart are the left and right ventricles. In order to sustain cardiac output for life, these bottom chambers of the heart need to contract in a regular, synchronized manner (*i.e.*, sinus rhythm). Ventricular fibrillation is a chaotic rhythm of these bottom chambers in which, according to Dr. Tseng,¹⁵⁵ the heart is not contracting, it is not pumping, it is just writhing in a disorganized fashion—"the heart wriggles like a bag of worms." According to Dr. Kerr,¹⁵⁶ ventricular fibrillation causes the heart to beat at 200–300 beats per minute. The person will lose blood pressure, lose consciousness, and collapse within five to ten seconds. Dr. Tseng told me that this type of sudden cardiac death kills up to 450,000 Americans annually. It is universally fatal unless the rhythm is defibrillated into normal cardiac rhythm. One study determined that if defibrillation did not occur within two to four minutes, 50 percent of subjects suffered irreversible brain death. If defibrillation did not occur within 10 minutes, death was almost universal.

Ventricular fibrillation is caused by a disruption in the normal electrical current going to the heart muscle. This disruption can have an internal or external source. The

¹⁵⁵ Transcript, May 9, 2008, p. 5.

¹⁵⁶ Transcript, May 20, 2008, pp. 1-20.

disruption is most frequently internal, typically in people with heart disease. For example, a person who has had major heart attacks in the past will develop scar tissue in their heart and, when a stimulus is at a particular stage in the cardiac cycle, the electrical signal cannot go one way around the heart. It goes the other way, circles around the scar tissue and creates a very fast hemodynamically unstable rhythm, ventricular tachycardia, which may lead to ventricular fibrillation. It can also arise in people with hypertrophic cardiomyopathy (where the walls of the heart get very thick) or other congenital forms of heart disease.

Disruptions from an external source can be accidental or intentional. Electrocutions from household electrical current or from lightning are typical accidental external sources. So too are mechanical traumas to the chest wall, known as *commotio cordis*. For example, if a hockey puck or baseball strikes the chest at a vulnerable time during the heartbeat cycle, a healthy athlete may die suddenly from ventricular fibrillation.

Of particular interest to this Commission is the *intentional* external disruption of these electrical signals. Dr. Kerr and Dr. Tseng are both experienced cardiologists and electrophysiologists who devote much of their professional careers to installing pacemakers and implantable cardiac defibrillators into patients' chests. These defibrillators have a wire leading down into the heart. When the patient develops a life-threatening arrhythmia, the defibrillator will either pace the heart very rapidly and stop the arrhythmia, or shock the heart in order to bring the rhythm back to normal.

Dr. Kerr told me that they implant these defibrillators on an almost daily basis. In every case, they need to test it to ensure that it is working properly. They do this by intentionally inducing ventricular fibrillation through the introduction of tiny electrical shocks at the most vulnerable period of the cardiac cycle. The defibrillator recognizes the rapid beating as ventricular fibrillation, charges up its capacitors, and introduces an electrical shock to terminate the fibrillation.

According to Dr. Kerr, if a person is shocked externally, between 5 and 10 joules would be required in order to bring on ventricular fibrillation. However, in the case of an internal shock, only 0.2 to 0.5 joules is required.

Dr. Tseng explained the importance of timing, when a cardiologist intentionally induces ventricular fibrillation, by saying that a normal heartbeat can be divided into several discrete phases:

- *P-wave*—this represents contraction of the upper chambers of the heart (atria), which take blood from the veins of the body and feed the ventricles;
- *QRS*—this represents contraction of the ventricles, ejecting blood from the heart into the rest of the body or the lungs;
- *QT*—this represents the period of re-polarization, or electrical recovery of the ventricles; and
- *T-wave*—this represents the peak of this recovery period. The peak of the T-wave, which accounts for approximately 3 percent of the entire cycle, is the most vulnerable period. To induce ventricular fibrillation, a cardiologist delivers the electric shock at the peak of the T-wave.

i. Risks to subjects with healthy hearts

With that basic introduction to ventricular fibrillation, I turn now to an examination of whether the electrical current emitted from a conducted energy weapon is capable of inducing ventricular fibrillation and, if so, in what circumstances.¹⁵⁷

In the discussion that follows, I will focus on deployment of conducted energy weapons in probe mode, in which two barbed darts are fired from the weapon become imbedded in the subject or their clothing, and a five-second pulsed electrical current is introduced to the subject's body via wires connecting the weapon to the barbs.

As I discussed in Part 3, the X26 conducted energy weapon delivers 19 electrical pulses per second, each pulse lasting for 80-100 millionths of a second. According to Mr. Reilly, the weapon has a peak output current of 3 amperes (*i.e.*, a measure of the

¹⁵⁷ While most of the research to date has focused on the direct effect of a conducted energy weapon's electrical current in triggering ventricular fibrillation, there are other possible mechanisms that may be more causative, such as the possibility of a heightened adrenergic state causing ventricular fibrillation, or some other arrhythmia, such as bradycardia.

actual amperage during a pulse), and has a “delivered charge” for each pulse of approximately 100 micro-coulombs (100 millionths of a coulomb).

Several controlled laboratory experiments on pigs have focused on whether the electrical current from conducted energy weapons causes ventricular fibrillation:

- *McDaniel et al.*¹⁵⁸—10 anesthetized pigs were subjected to five-second pulses discharged across the thorax from a custom-built device designed to deliver a discharge matching the waveform characteristics of the X26. The charge was increased until ventricular fibrillation was induced, at which point a decreasing series of discharges were applied until ventricular fibrillation was no longer induced by five discharges of equal charge. The researchers defined the maximum safe level as the highest discharge that could be applied five times without induction of ventricular fibrillation, from which a safety index was calculated. They calculated that a discharge that could induce ventricular fibrillation required at least 15 times the charge of the standard X26 discharge, increasing to 42 times in the case of increasingly heavy pigs. They concluded that the study confirmed the cardiac safety of such devices, that such devices may be safely applied multiple times if needed, and that discharge levels indicate an extremely low probability of inducing ventricular fibrillation.
- *Lakkireddy et al.*¹⁵⁹—five anesthetized adult pigs were subjected to a series of discharges at increasing levels of charge, to determine at what level ventricular fibrillation would be induced. Electrodes were placed at five different locations on the thorax and back. After baseline testing, high-dose cocaine was infused intravenously. Researchers found that standard discharges (*i.e.*, at X26 level) did not cause ventricular fibrillation in any of the pigs at any of the five electrode locations, before or after cocaine infusion. However, they identified ventricular capture with electrodes placed nearest the heart, which suggests that the discharge may have overridden the heart’s normal electrical current. The risk of ventricular fibrillation decreased as the electrodes were placed further and further away from the heart, and also decreased with cocaine infusion.
- *Nanthakumar*¹⁶⁰—six anesthetized pigs were subjected to a total of 150 discharges from actual X26 and M26 weapons, in which the probes were placed either over the heart or the abdomen. Previous researchers had been

158 McDaniel, W.C., et al., “Cardiac Safety of Neuromuscular Incapacitating Defensive Devices,” (2005), 28 Supplement 1 *PACE* S284.

159 Lakkireddy, D., et al., “Effects of Cocaine Intoxication on the Threshold for Stun Gun Induction of Ventricular Fibrillation,” (2006) 48 *J. Am. Coll. Cardiol.* 805.

160 Nanthakumar, K., et al., “Cardiac Electrophysiological Consequences of Neuromuscular Incapacitating Device Discharges,” (2006) 48 *J. Am. Coll. Cardiol.* 798.

unable to record electrical signals within the heart during the discharge, because the electrical “noise” from the weapon overwhelmed the electrocardiogram. To remedy that significant deficiency, these researchers inserted bipolar recording catheters into the right ventricle, and a blood pressure catheter was positioned in the descending aorta. They found that of the 94 discharges over the heart, blood pressure dropped to zero, and there was stimulation of the myocardium in 74 cases (79 percent), with a mean ventricular rate during stimulation and capture of 324 beats per minute. However, of the 56 discharges over the abdomen, there were no instances of myocardium stimulation. Put more simply, standard weapon discharge over the heart induced ventricular tachycardia (a precursor to ventricular fibrillation) four times out of five, but never in the case of discharge over the abdomen. In an attempt to simulate an excited state in these anesthetized pigs, the researchers infused them with epinephrine (adrenaline). In 16 discharges, there were 13 episodes of stimulation of the myocardium, including one case of ventricular fibrillation.

- *Dennis*¹⁶¹—six anesthetized pigs were subjected to two 40-second discharges from an X26 weapon. Dart placement traversed the left thorax. To assess the rhythm and function of the myocardium, echocardiography was performed. Two animals died from ventricular fibrillation, and most of the others “showed capture of ventricular rhythm with rapid ventricular contractions seen on echo consistent with ventricular tachycardia (approximate rate of 300 bpm).” The researchers stated that their observations were in general agreement with those of Nanthakumar, discussed above.
- *Walter*¹⁶²—the same team of researchers as in *Dennis* subjected eight anesthetized pigs to two 40-second discharges from an X26 weapon, with the darts placed along a transcardiac vector. The pigs were monitored with an ECG and echocardiography. All eight animals showed rapid cardiac rhythm and significant decline in systolic function that was consistent with ventricular fibrillation/flutter (301 beats per minute). One animal died from ventricular fibrillation, while two others experienced ventricular tachycardia/flutter, which reverted spontaneously to a normal rhythm within 17 seconds of cessation of the discharge. The researchers concluded that ventricular tachycardia/flutter occurs immediately upon starting the weapon discharge and invariably in all animals regardless of body mass, using darts more than 5 cm from the heart. Consequently, there is no safety factor for ventricular tachycardia, and a moderate likelihood of fatal ventricular fibrillation (one in eight animals tested) with the transcardiac vector used in this study.

161 Dennis, A. J., et al., “Acute Effects of TASER X26 Discharges in a Swine Model,” (2007), 63 *TRAUMA* 581.

162 Walter, R.J., et al., “TASER X26 Discharges in Swine Produce Potentially Fatal Ventricular Arrhythmias,” (2008) 15 *Acad. Emerg. Med.* 66.

- *Webster*¹⁶³—some researchers questioned whether pig study results could be extrapolated to humans, because pigs (but not humans) have a thick band of muscles across the chest that may affect electrical conductivity. To address this concern, these researchers modified dart placement. In their first study of 10 anesthetized pigs, a dart was inserted into the chest and, after each X26 discharge, the dart was moved closer to the heart. They determined that, on average, ventricular fibrillation occurred when the dart was 17 mm from the heart. In their second study (which eliminated a gel that had been applied to fill the air gap around the dart plunger), they determined that ventricular fibrillation occurred, on average, when the dart was about 6 mm from the heart. Mr. Webster told me that “if a 9 mm dart goes into a human that has 11 mm distance [between skin and heart], these data suggest that under those conditions the human would be electrocuted.”¹⁶⁴ He stressed that the dart would have to land in a very small area of the chest, between the ribs. The researchers undertook a statistical analysis of several variables (including real-life dart placement locations based on data provided from the manufacturer and variations in skin-to-heart distances in the general population), from which they concluded that the probability of ventricular fibrillation from use of a conducted energy weapon was about six in a million. Mr. Webster also told me that during their testing many discharges caused ventricular tachycardia (rapid heartbeats in an abnormal rhythm), that were resolved either by returning to normal or progressing to ventricular fibrillation several minutes later.

While researchers often rely on animal studies because of ethical objections to experiments on humans (and prefer using pigs because of their anatomical and physiological similarities to humans), they readily acknowledge the inherent limitations in pig studies because of crucial anatomical and electrophysiological differences between pigs and humans, which calls for caution in making extrapolations to humans. For that reason, attempts have been made to study the effect of conducted energy weapons on humans, in ethically acceptable settings.

Dr. Jeffrey Ho, a specialist in emergency medicine, made a presentation at our public forums. He told me that he has conducted several studies on the effect of conducted energy weapons on human volunteers:

163 John G. Webster, Transcript, May 5, 2008, p. 62.

164 *Ibid.*, p. 68.

- In a 2006 study,¹⁶⁵ they sought to determine if there was evidence of induced electrical dysrhythmia or direct cellular damage that would indicate a causal relationship between application of an X26 and in-custody death. Sixty-six adult volunteers recruited at a TASER International training course were subjected to one 5-second discharge in their backs from an X26. Thirty-two of them underwent electrocardiographic evaluation immediately before and after (but not during) the discharge, and 16 and 24 hours later. They found that the weapon discharge did not affect the recordable cardiac electrical activity within the 24-hour period.
- In a 2007 study,¹⁶⁶ a baseline electrocardiogram was obtained from 25 adult volunteers, who were then put through a physical regimen of push-ups and treadmill sprints to simulate the physical exertion often seen in real-life scenarios. They then received a continuous 15-second discharge from an X26 on their thoraces, either in their front or in their back. Electrode positions involved at least a 12-inch spread and always encompassed the normal anatomic position of the heart. An electrocardiogram was obtained after exposure. They found that in all cases, exposure did not cause a detectable change in the electrocardiogram.
- In a 2008 study,¹⁶⁷ the researchers noted that some animal model research supported the hypothesis that conducted energy weapons can cause dangerous cardiac rhythms, recording supposed cardiac capture rates of 300 beats per minute. They attempted to recreate these animal research conditions in humans. The study involved 33 human volunteers recruited at several TASER International training courses in 2007. They underwent echocardiography before, during, and after 10-second X26 applications, with thoracic skin surface electrodes placed in the optimal cardiac axis position (upper right sternum and cardiac apex as estimated by the palpated point of maximal impulse). Ultrasound images were analyzed using M-mode through the anterior leaflet of the mitral valve for evidence of arrhythmia. Although the mean heart rate increased from 109 to 120 beats per minute during exposure, no adverse events were recorded. Sinus rhythm was clearly demonstrated in 21 of 33 subjects during exposure, but not in the other 12 due to movement artifact. There were no episodes of ventricular tachyarrhythmia. The authors noted that there have been over 700,000 conducted energy weapon discharges during the manufacturer's training classes, with no reported collapses, cardiac arrests, or fatalities, from which

165 Ho, J., et al., "Cardiovascular and Physiologic Effects of Conducted Electrical Weapon Discharge in Resting Adults," (2006) *Acad. Emerg. Med.* 1.

166 Ho, J., et al., "Absence of Electrocardiographic Change Following Prolonged Application of a Conducted Electrical Weapon in Physically Exhausted Adults," (2007) SAEM Annual Meeting Abstracts #322, p. S128.

167 Ho, J., et al., "Echocardiographic Evaluation of a TASER-X26 Application in the Ideal Human Cardiac Axis," (2008) 15 *Acad. Emerg. Med.* 838.

they concluded, “the possibility of [conducted energy weapon] induced arrhythmia seems extremely unlikely.”

Researchers from the University of California, San Diego’s Department of Emergency Medicine have conducted several human tests:

- *Levine*¹⁶⁸—105 adult volunteer law enforcement officers were subjected to a single X26 discharge of up to five seconds (average shock duration was three seconds) into their backs. The researchers concluded that “a significant increase in heart rate was found after a brief shock ... [but] there were no other identified cardiac rhythm disturbances or morphology changes except for a few subjects who appeared to have QT changes, the significance of which is unclear.”
- *Vilke*¹⁶⁹—32 healthy police volunteers were subjected to an X26 discharge of up to five seconds (average was 2.1 seconds). Alligator clips were attached to each subject’s clothing instead of the weapon’s normal barbs, and the report does not specify whether they were attached in the chest or back area. An ECG was taken five minutes before exposure and one minute after exposure, but not during exposure. There was an increase of 2.4 beats per minute in mean heart rate, but there were no instances of dysrhythmia or ectopy for any subject. The researchers concluded that “we found no clinically significant changes in cardiac interval changes, including QTc, PR, or QRS immediately after a TASER activation.”

During our public forums, Dr. Tseng told me about a reported case¹⁷⁰ in which a prison inmate with a pacemaker implanted in his left chest was subjected to a conducted energy weapon discharge into his right chest area. When the pacemaker data was analyzed, there was clear evidence of weapon-induced myocardial capture—two high ventricular rate episodes (240 beats per minute) corresponding to the exact time of the weapon application.¹⁷¹ Dr. Tseng said that in the case of implanted defibrillators, there is a risk that the defibrillator may interpret the weapon’s pulses as abnormal

168 Levine, S.D., et al., “Cardiac Monitoring of Human Subjects Exposed to the TASER,” (2007) 33 *J. Emerg. Med.* 113.

169 Vilke, G.M., et al., “Twelve-lead Electrocardiogram Monitoring of Subjects Before and After Voluntary Exposure to the TASER X26,” (2008) 26 *Am. J. Emerg. Med.* 1.

170 Cao, M., et al., “TASER-Induced Rapid Ventricular Myocardial Capture Demonstrated by Pacemaker Intracardiac Electrograms,” (2007) 18 *J. Cardio. Electro.* 876.

171 Drs. Tseng and Kerr cautioned that one cannot be sure from the data available in this case whether the pulse from the weapon stimulated the heart directly, or whether the electrical charge from the weapon collected on the wire running from the pacemaker into the heart and ran down the wire to stimulate the heart.

cardiac rhythm, and may shock the patient because of the weapon, not because of any dangerous heart rhythm.

From this review, I have drawn several conclusions.

First, there can be no doubt that an external electrical current can overtake the human body's internal electrical system, resulting in ventricular capture, which may lead to ventricular tachycardia and, in some cases, ventricular fibrillation.

Cardiologists routinely introduce small electrical shocks for the purpose of triggering ventricular fibrillation, in order to test newly implanted defibrillators.

Second, there is some evidence that the electrical current from a conducted energy weapon is capable of triggering ventricular capture. The real-life example of a man with a pacemaker having a conducted energy weapon applied against him, resulting in myocardial capture corresponding exactly to the timing of the weapon's pulses, is persuasive evidence that the weapon's electrical current can override the heart.

Third, human studies conducted to date, by researchers such as Drs. Ho, Levine, and Vilke, have not yielded evidence of ventricular tachyarrhythmias. However, I am reluctant to generalize from their studies, for several reasons. They frequently applied the electrical shock to the subject's back as opposed to the chest area, clipped the electrodes to the subject's clothing or taped them to the skin rather than using barbs that penetrate the skin, and in some cases restricted the discharge to 2–3 seconds. More importantly, most of those studies were not capable of ascertaining whether there was an arrhythmia *during* the weapon's discharge. In one study, the researchers were able to determine that 21 subjects who were monitored by echocardiography had normal heart rhythms during discharge, but that is far too small a sample from which to draw conclusions about whether a weapon is capable of causing ventricular capture and, if so, how frequently.

Fourth, we do know from several animal studies that a conducted energy weapon's discharge can trigger ventricular tachycardia and/or fibrillation in pigs. I approach these studies with caution, recognizing the differences between pigs and humans.

Having said that, I am satisfied that it is safe to draw several conclusions from these studies that can be extrapolated to humans. First, the greatest risk of ventricular fibrillation arises when the probes are vectored across the heart. Second, the risk of ventricular fibrillation increases as the tips of the probes get closer to the wall of the heart.

Fifth, I am satisfied that there is a short “window” during the heart’s normal beat cycle (the T-wave), when the heart is most vulnerable to an external electrical shock. Fibrillation is known to occur when athletes receive a blow to the sternum during the T-wave, and when cardiologists test newly implanted defibrillators, they time their electrical charge to coincide with the T-wave.

Sixth, while induction of ventricular fibrillation may be dependent on timing of discharges within the vulnerable period of the cardiac cycle, that “narrow window” does not apply to rapid ventricular capture causing ventricular tachycardia, a hemodynamically unstable rhythm which may degenerate into ventricular fibrillation. Death in these circumstances may not be immediate. Ventricular tachycardia is not dependent on timing within the cardiac cycle—discharges at almost any time in the cardiac cycle can capture the heart to cause ventricular tachycardia.

Seventh, while I have concluded that a conducted energy weapon is capable of triggering ventricular capture that may lead to ventricular tachycardia and/or fibrillation, I do not have enough information to quantify that risk with any degree of precision. Further, the risk appears to vary, depending on several factors, which I will discuss later in this part.

Eighth, in deaths proximate to use of a conducted energy weapon, there is often a lack of physical evidence on autopsy to determine whether arrhythmia was the cause of death, which opens the door to debate about whether the weapon or some pre-existing medical condition was responsible. While alcohol or drug intoxication may complicate the pathological analysis in some cases, other explanations must be found in cases where alcohol or drugs were not involved. Several medical experts who made

oral presentations during our public hearings emphasized that there must be some explanation for these sudden deaths:

- Dr. Charles Kerr—“But the one thing I think is clear is that people have had cardiac arrests, and the majority of times there’s no obvious structural heart disease or other cause of death, no bleeding or head trauma. And if somebody dies suddenly and no obvious cause, that is almost certainly an arrhythmia, an abnormal heart rhythm, either an excessively fast abnormal heart rhythm or a slow one.”¹⁷²
- Dr. Zian Tseng—“If you see no finding on an autopsy that supports a related arrhythmic death. If there’s a person that dropped dead suddenly after TASER application and you can find nothing else on autopsy, I would venture to say that that’s due to an arrhythmic death.”¹⁷³
- Dr. Michael Janusz—“If someone is tasered in the front of the chest and immediately falls to the ground and is unresponsive, it is almost certainly ventricular fibrillation, and cardiopulmonary resuscitation and defibrillation are required.”¹⁷⁴

Before moving on to an examination of circumstances in which the risk may increase, I would like to comment on a statistic cited by one of the medical researchers, that there have been over 700,000 conducted energy weapon discharges during the manufacturer’s training classes, with no reported collapses, cardiac arrests, or fatalities. On its face, this is an impressive record of safety. However, I approach this data with caution for the following reason. The information before me points to the *capacity* of a conducted energy weapon to cause heart arrhythmia even in healthy adults, but the risk varies depending on the existence of several factors, such as the location of the probes (*i.e.*, across the heart), the timing of the discharge (*i.e.*, during the T-wave), the proximity of the tip of the probe to the heart wall, and the duration of the discharge.

As the animal studies have shown, the likelihood of triggering ventricular fibrillation increases dramatically as some of these variables are manipulated. It follows that the converse is true as well, and the risk of ventricular fibrillation decreases if, for

172 Transcript, May 20, 2008, p. 18.

173 Transcript, May 9, 2008, p. 27.

174 Transcript, May 20, 2008, p. 25.

example, the probes are kept away from the heart and the duration of the discharge is shortened. The dilemma facing researchers using human subjects is to obtain useful data without exposing their volunteers to undue risk. Similarly, those who deploy weapons against police officers during training want to give their subjects a real-life experience, without exposing them to undue risk. Consequently, it is not surprising that the manufacturer has published guidelines¹⁷⁵ for how its weapons should be deployed during instructor training, which include the following:

- The actual barb and probe body is removed, and the ends of the wires are taped to the volunteer's body;
- The two wires are taped to parts of the body distant from the heart, such as a foot and hip, a shoulder and hip or the upper and lower back; and
- The weapon is discharged for 1–2 seconds, which is “ample enough time to experience the effects first hand.”

I understand entirely the reasons for this precautionary approach—giving police officers an opportunity to experience the weapon's discharge, but according to a protocol that minimizes the risk of triggering a cardiac arrhythmia. But it is this very protocol that makes the resulting data of very limited value when ascertaining the weapon's capacity to cause harm. The protocol deliberately excludes the very factors that create the risk, such as avoiding a vector across the heart, not allowing the probes to deploy into the chest area (which would reduce the probe tip-to-heart distance), and shortening the duration of the discharge.

This data does suggest that the risk of ventricular fibrillation can be reduced, and perhaps even eliminated, if probes are kept away from the heart and attached to the surface of the skin, and if the duration of the discharge is reduced to less than half of the standard five-second cycle. But I do not find this data of any assistance when considering the *capacity* of a conducted energy weapon to trigger cardiac arrhythmia.

175 TASER International Instructor Training Bulletin, “Mandatory Hits with the ADVANCED TASER,” M26 Instructor course materials, Version 11.

ii. Circumstances in which the risk may increase

Heart disease

Several cardiologists told me that people with cardiovascular disease are at a significantly higher risk of ventricular fibrillation. Dr. Janusz said:

It is really quite difficult to cause a normal heart to fibrillate. When we have the chest open at surgery, you can pick the heart up, look at the vessels on the back, touch it with your hand, touch it with the cautery. It'll have the odd extra beat but that doesn't cause any problem. By contrast, in a really sick heart, we are very cautious to avoid touching the ventricle until we are on bypass so that it will have the support of the circulation in case it fibrillates.¹⁷⁶

To the same effect, Dr. Kerr explained that scar tissue formed by previous heart attacks could cause abnormal circular “re-entry” currents that travel around the heart instead of from top to bottom, potentially causing disorganized rhythms leading to ventricular tachycardia or fibrillation.

I also learned that the shock and intense pain that a subject experiences when a conducted energy weapon is discharged is more dangerous when the subject has cardiovascular disease, because the heart may beat faster and more forcefully, placing greater strain on the heart wall. People with chronic high blood pressure may undergo a dramatic increase in blood pressure, leading to ventricular fibrillation. People with weakly pumping hearts (*e.g.*, congestive heart failure) may be unable to tolerate the faster heartbeat for long, with the same outcome.

Heart disease not only increases the risk of ventricular fibrillation, but also affects resuscitation. Dr. Janusz states, “Unfortunately, patients with underlying heart disease will also be the most difficult to resuscitate after ventricular fibrillation.”¹⁷⁷

In light of this medical evidence, it is not surprising that in 2007 the manufacturer published a product warning that stated in part:

Avoid Known Pre-Existing Injury Areas—when practical, avoid deploying a TASER device at a known location of a pre-existing injury (*e.g.*, avoid targeting

¹⁷⁶ Transcript, May 20, 2008, p. 23.

¹⁷⁷ Transcript, May 20, 2008, p. 24.

... the chest area on persons with a known history of previous heart attacks, etc.). These injuries may be provoked by such deployment.¹⁷⁸

However, the April 28, 2008, version of this product warning removed any specific reference to cardiac risks, cautioning users only that “when practical, avoid deploying or using a TASER device on a known area or location of pre-existing injury without legal justification. Pre-existing injuries may be exacerbated by such deployment.” The manufacturer published, contemporaneously, a training bulletin that stated in part:

The preponderance of the data, including all of the human studies, suggests that VF [ventricular fibrillation] is not caused by ECDs [electronic control devices] in real-world usage. There is no evidence of important electrocardiogram changes, or capture (pacing response of the heart to electrical stimulation), and finite element modeling does not suggest a current density in real-world use able to induce fibrillation in humans. Also, epidemiological studies do not find that real-world human ECD use causes VF.¹⁷⁹

It may be true that human studies have not documented instances of ventricular fibrillation following discharge of a conducted energy weapon. However, that speaks to a different issue than what is under consideration here—whether a conducted energy weapon *is capable* of triggering cardiac capture that may lead to ventricular tachycardia and/or fibrillation. In one reported case,¹⁸⁰ a conducted energy weapon was used to subdue an adolescent, who subsequently collapsed. Paramedics found the adolescent to be in ventricular fibrillation and began performing cardiopulmonary resuscitation within two minutes of the collapse, and a perfusing rhythm was restored.

I am persuaded, from the information before me, that a conducted energy weapon is capable of triggering cardiac capture, and that the risk increases in the case of subjects with pre-existing cardiovascular disease.

178 “Product Warning—Citizen,” March 1, 2007, p. 2.

179 Training Bulletin 14.0-03 TASER Law Enforcement Warnings, April 28, 2008.

180 Kim, Paul J. and Wayne H. Franklin, “Ventricular Fibrillation after Stun-Gun Discharge,” 353 *New England J. Med.* 9 (2005).

Body size or shape

In one animal study, it was found that the conducted energy weapon discharge that was required to induce ventricular fibrillation increased significantly in the case of increasingly heavy pigs.¹⁸¹ However, size may be relevant only insofar as a larger subject will probably have a greater skin-to-heart distance. As Webster demonstrated,¹⁸² the likelihood of ventricular fibrillation increased as the tip of the weapon's dart moved closer and closer to the heart. Another researcher, who had conducted a similar porcine test in which he found that the average dart tip-to-heart distance to induce ventricular fibrillation was 17 mm, measured the skin-to-heart distance of 150 adult human volunteers. He found that 42 percent had a skin-to-heart distance of 26 mm or less, which made them potentially vulnerable for ventricular fibrillation, assuming that the tip of the dart penetrated the full 9 mm into the chest.¹⁸³

Subject's physical response

There is some evidence to suggest that the way in which a subject responds to a conducted energy weapon discharge may increase the risk of ventricular fibrillation.

No one disputes that, in addition to incapacitation, discharge of a conducted energy weapon produces intense pain, often coupled with anxiety, distress, and a physical struggle with police officers. According to Dr. Kerr:

[W]hen people have pain, anxiety, distress, they will have an outpouring of their central nervous system, what we call the sympathetic nervous system, that stimulates the heart. There's also an outpouring from the adrenal glands of adrenaline and other compounds like adrenaline, and they also directly stimulate the heart. They cause the heart to go faster, they cause the blood pressure to go up, and they also alter the electrical properties of heart muscle cells by changing the voltages across the cell membranes that make them more prone to developing dangerous arrhythmias.¹⁸⁴

181 *Ibid.*, footnote 158.

182 *Ibid.*, footnote 163.

183 Rahko, P., "Evaluation of the Skin-to-Heart Distance in the Standing Adult by Two-Dimensional Echocardiography," (2008) 21 *J. Am. Soc. Echocard.* 761.

184 Transcript, May 20, 2008, p. 7.

Dr. Swerdlow agreed, stating during his presentation that “as electrophysiologists and other cardiac experts, we know that adrenaline makes you more vulnerable to fibrillation as a serious arrhythmia and cause of death.”¹⁸⁵

In his 2006 animal study,¹⁸⁶ Dr. Nanthakumar demonstrated that relationship. He found that when epinephrine (adrenaline) was induced during weapon discharges across the heart, the myocardium was stimulated in 13 out of 16 pigs, one of which resulted in ventricular fibrillation.

This type of exertion (involving skeletal muscle contractions) may also result in the buildup of lactic acid and carbon dioxide in the blood, which lowers the blood pH, thereby increasing acidity, which may lead to acidosis.¹⁸⁷ Normal blood pH varies between 7.35 and 7.45, but may drop to 7.2 or 7.0, or even lower in the case of acidosis. Acidosis affects the electrolyte balance, especially potassium, and the electrical triggering of the heart, making the heart more susceptible to ventricular fibrillation.¹⁸⁸

Sometimes the intense muscle contractions brought about by the conducted energy weapon discharge causes muscle damage (rhabdomyolysis), contributing to an increase in potassium levels that may electrically imbalance the heart.

When acidosis occurs, it can take some time for the blood’s pH level to return to normal. Dr. Tseng told me that, because of this, one cannot eliminate ventricular fibrillation as a possible cause of death just because death did not immediately follow discharge of a conducted energy weapon:

Also I’ll say that delayed sudden death doesn’t mean that the TASER shock was not contributory. You’ve seen that the TASER causes QT changes. It causes acidosis. It causes pain and adrenaline. And those effects persist for minutes. So if you have a sudden death ten minutes later, twenty minutes later, that

185 Transcript, June 25, 2008, p. 31.

186 *Ibid.*, footnote 160.

187 *Ibid.*, footnote 161, p. 588.

188 Jauchem, J.R., et al., “Acidosis, Lactate, Electrolytes, Muscle Enzymes, and Other Factors in the Blood *Sus scrofa* Following Repeated TASER Exposures,” (2006) 161 *Forensic Science Intl.* 20, at 27.

doesn't mean that the TASER twenty minutes ago didn't contribute to the death.¹⁸⁹

Timing of the shock

While a sufficient external electrical current is capable of triggering ventricular fibrillation at any time during a normal heartbeat cycle, it does not appear to be in dispute that this risk increases significantly if the discharge of the external electrical current coincides with the cycle's T-wave peak. Odell states:

Current pulses which might merely produce an extrasystole if present at other portions of the cycle may induce fibrillation during the T-wave with a threshold 25 or more times lower than at other times in the cycle¹⁹⁰ [emphasis added].

There is, of course, no way for a conducted energy weapon operator to tell what part of a heartbeat cycle a subject is in when the weapon is deployed.

b. Myocardial infarction (heart attack)

Coronary heart disease is caused by a blockage of the arteries that supply blood to the heart muscles. During our public forums, Prof. Savard described the process as follows:

Now, for the abnormal state we'll talk about coronary heart disease, which is a narrowing of the arteries that irrigate the heart muscle itself. So this narrowing occurs because of plaque, because of atherosclerosis. If you have partial occlusion (*i.e.*, blockage) in the myocardium, the muscle under the occlusion does not receive enough blood, you have a state of ischemia. The muscle is still alive but is like choking. But if you have a complete occlusion, then the tissue, the muscle will die, will be replaced by scar tissue. It's called myocardial infarction.¹⁹¹

Another cause of myocardial infarction is electrical injury. In one case, a construction worker was diagnosed with inferior wall myocardial infarction after a crane boom

189 Transcript, May 9, 2008, p. 28.

190 Odell, M., "The Human Body as an Electric Current," (1997) 4 *J. Clin. For. Med.* 1, at 5. He cites, for this proposition, the International Electrotechnical Commission, *Effects of Current Passing Through the Human Body*, Document 479-1, IEC, 1984.

191 Transcript, May 22, 2008, p. 4.

came in contact with a high tension line rated at 23,000 volts. In a case report,¹⁹² the attending physician cited numerous other reported instances, but characterized the phenomenon as “uncommon.”

In an animal study comparing AC and DC current, researchers found a 90 percent incidence of myocardial infarction with AC current, and a 33 percent incidence with DC current. After citing these results and after discussing real-life instances of myocardial infarction following electrical injury, the researchers stated that the absence of atherosclerosis made coronary spasm a likely cause of this myocardial damage: “The proposed mechanism of injury is prolonged coronary artery spasm, perhaps tetanic in nature, induced by the alternating current.”¹⁹³

Another researcher, after reviewing numerous previous studies, was more cautious, emphasizing that appropriate treatment will depend on an accurate diagnosis of the cause of the cardiac arrest:

A specific therapy does not exist; however, victims with cardiac arrest from electrical shock or lightning strike require prompt, aggressive resuscitation. Treatment of myocardial necrosis requires drugs to reduce platelet aggregation and heparin; Ca-antagonist (in no heart failure cases) and nitrate may be helpful to reduce coronary spasm. Hypertension, heart failure or conduction abnormalities required standard therapeutic regimens. However, in managing apparent acute myocardial infarction, the possibility that injury is not of ischemic origin must be considered.¹⁹⁴

While studies have not yet examined whether the electrical current from a conducted energy weapon is sufficient to trigger coronary spasm, it is possible that such a mechanism exists.

A further possible cause of myocardial infarction associated with use of a conducted energy weapon is stress. The anxiety felt by subjects before a discharge, the intense pain experienced during discharge, and the exertion that often follows discharge

192 Kinney, T.J., “Myocardial Infarction Following Electrical Injury,” (1982) 11 *Annals Emerg. Med.* 622.

193 Robinson, N.M.K., et al., “Electrical Injury to the Heart May Cause Long-term Damage to Conducting Tissue: A Hypothesis and Review of the Literature,” (1996) 53 *Intern. J. Cardiol.* 273.

194 Fineschi, V., et al., “Electric Shock: Cardiac Effects Relative to Non-fatal Injuries and Post-mortem Findings in Fatal Cases,” (2006) 111 *Intern. J. Cardiol.* 6.

(during attempts at restraint) inevitably increase the heart rate and, with it, a greater oxygen demand. Subjects with pre-existing coronary artery disease have a significantly reduced capacity to supply the heart muscle with oxygen-rich blood, which may lead to ischemia or in severe cases, myocardial infarction. Dr. Kerr cautioned that:

[P]eople can have absolutely amazing intensification of their sympathetic nervous system under stressful situations. People can jack their heart rates up to 180, 200 beats a minute in a tense environment. Their blood pressures can go up to 200, 240 millimetres of mercury sometimes in these kinds of environments. And the intense stimulation that that causes the heart—I don't think can be underestimated.¹⁹⁵

c. Pacemakers and defibrillators

Permanent pacemakers deliver tiny electrical impulses to the heart, to regulate abnormally fast, slow, or irregular heartbeats. Implanted cardioverter defibrillators also deliver electrical currents to the heart to correct fibrillations and other arrhythmias. Both devices deliver their currents directly into the heart by way of metal leads running from the devices into the heart muscles. Researchers have raised several concerns:

- These wires might conduct the current from a conducted energy weapon directly into the heart, in which case much less current would be required to trigger a life-threatening arrhythmia.
- The weapon's current might override the pacemaker's current. That effect was demonstrated in one case discussed earlier, in which a prison inmate with an implanted pacemaker received a conducted energy weapon discharge, and data retrieved from the pacemaker showed a very high heart rate (tachycardia) driven by every third weapon pulse. Dr. Kerr mentioned this case during his oral presentation, and cautioned that it was not clear whether the weapon's current stimulated the heart directly or the weapon's current collected on the wire and travelled down the wire, stimulating the heart.
- The device might interpret the weapon's current as ventricular fibrillation, causing the defibrillator to emit an electrical current inappropriately.

¹⁹⁵ Transcript, May 20, 2008, p. 13. According to one cardiologist, this intense blood pressure can also trigger the rupture of an atherosclerotic plaque to induce myocardial infarction.

Dr. Tseng identified this as a concern. In one case, the female subject of a five-second weapon discharge wore an implanted cardioverter defibrillator. After the incident, data from the device revealed one episode of ventricular fibrillation which corresponded to the time of the weapon discharge. The device's capacitor charged up in preparation for ventricular fibrillation therapy, but by the time that the device attempted to reconfirm fibrillation, the weapon discharge had ceased and the device no longer detected fibrillation, so the charged energy was diverted. The researchers found no damage to the device, but added: "A longer exposure time to the TASER energy or a shorter capacitor charging time due to lower shock energy programmed (i.e., 20 J) could have led to a shock delivery by the ICD."¹⁹⁶

- The weapon's current might damage the device. According to one researcher, "electromagnetic interference can result in many undesirable consequences, including damage to internal circuitry, oversensing, undersensing, failure to pace, failure to capture, power on reset, triggering of elective replacement indicators and inappropriate defibrillation therapy."¹⁹⁷ However, his test of nine pacemakers and seven defibrillators on a pig, with a standard five-second weapon shock over the heart, found no damage to the devices. He stated, at page 555:¹⁹⁸

Our results indicate that there was no change in the integrity of pacing and sensing functions of both the ICD [implantable cardioverter defibrillator] and the PM [pacemaker] leads. There was no immediate damage to implanted pacemakers' and defibrillators' generators caused by the standard NMI [neuromuscular incapacitation] discharge. A 5-second NMI discharge did not seem to be detrimental to pacemaker or ICD lead function and integrity acutely. Our experimental design, of course, could not exclude the potential that repeated applications of these shocks may cause cumulative damage to the generators or that single applications may lead to long-term malfunction of these devices.

From this review I conclude that there are several risks associated with deployment of a conducted energy weapon against a subject who is wearing an implanted pacemaker or defibrillator. For example, the weapon's current may collect on the device's wire and travel directly into the heart (in which case significantly less current may be

196 Haegeli, L.M., et al., "Effect of a TASER Shot to the Chest of a Patient with an Implantable Defibrillator," (2006) 3 *Heart Rhythm* 339.

197 Lakkireddy, D., et al., "Do Electrical Stun Guns (TASER-X26) Affect the Functional Integrity of Implantable Pacemakers and Defibrillators?" (2007) 9 *Eurospace* 551. See also Lakkireddy, D. et al., "Can Electrical-Conductive Weapons (TASER) Alter Functional Integrity of Pacemakers and Defibrillators and Cause Myocardial Capture?" Abstract, Heart Rhythm Society, 29th Annual Meeting, May 2008.

198 *Ibid.*

required to trigger a life-threatening arrhythmia), or the device may wrongly interpret the weapon's current as ventricular fibrillation and respond inappropriately.

In the light of these risks, it is in my view imprudent for law enforcement agencies in British Columbia to train in accordance with the part of the manufacturer's current training materials that states:

Modern pacemakers and implanted defibrillators withstand external electrical defibrillators at least 800 times stronger than the TASER conducted energy pulses.... Published peer reviewed research shows that there is no negative effect of the TASER device when used on a subject with an implanted device.

It is not surprising that these devices can withstand the current from a defibrillator—one would hope that those who design these devices would build such safety margins into the devices in anticipation that a person wearing a device might need to be externally defibrillated. The issue before me is different—is a person wearing one of these devices at greater risk if they receive a discharge from a conducted energy weapon? The information before me strongly suggests that they are, and that risk should be addressed in the training that officers receive.

Unquestionably, we could benefit from further research. Mr. Reilly told me:

But there could be other things that ought to be looked at and I think, for instance, implanted pacemakers and implanted defibrillators would certainly be things on our list of things that we need to understand better, whether the function of those devices might be interfered with. And that's the question that needs to be raised, and I don't have an answer for it.¹⁹⁹

d. Blood pressure

Several researchers have found that a subject's heart rate increased, either before, during, or after a conducted energy weapon discharge. An increase in heart rate leads to increased blood pressure, which can cause acute stroke or create several other problems:

- *Rupture of a pre-existing aneurysm*—an aneurysm is an abnormal ballooning of the wall of an artery, which makes the wall thinner and more

¹⁹⁹ Transcript, May 5, 2008, p. 58.

brittle, and thus prone to rupture in the event of a sudden increase in heart rate and blood pressure. Rupture of a major artery such as the aorta can cause massive internal hemorrhaging and loss of blood pressure, which can lead to death.

- *Rupture of the heart wall*—a similar risk exists in areas of the heart wall where coronary heart disease has created scar tissue, so that the heart wall is thinner and more brittle.
- *Petechiae*—these are pinpoint bruises usually affecting the eyelids and the clear membrane covering the white part of the eyeball (conjunctiva). Petechiae are traditionally associated with asphyxia deaths, but a decade ago one researcher questioned that relationship, given the absence of petechiae in many such deaths. Her review of the literature led her to conclude that “petechiae of the head are the product of purely mechanical vascular phenomena; namely impaired or obstructed venous return in the presence of continued arterial output.”²⁰⁰ This phenomenon may have some relevance to the use of conducted energy weapons for the following reason: if the deployment of a weapon and any resulting struggle causes an increase in blood pressure, and if compressive pressure to the subject’s chest or neck during restraint is great enough to obstruct venous return from the head but not enough to obstruct arterial flow to the brain, then cephalic venous pressure will rise, resulting in petechiae.

2. Delayed cardiac risks

Can a conducted energy weapon be responsible, if a subject dies some time after the conducted energy weapon was discharged?

Based on the information before me, one can envisage scenarios in which a conducted energy weapon may contribute to a subject’s death, even though that death appears to have occurred some time after deployment of the weapon. For example:

- The weapon’s current might cause an implanted cardioverter defibrillator to interpret the weapon’s externally generated current as ventricular fibrillation, leading the device to respond inappropriately after charging up its capacitor. I accept that such an inappropriate discharge would rarely cause death.
- In the case of subjects with coronary heart disease, stress brought on through deployment of the weapon (and post-discharge efforts at restraint) may lead to increased heart rate and blood pressure, leading to subsequent myocardial infarction and/or rupture of a pre-existing aneurysm.

200 Ely, S., et al., “Asphyxial Deaths and Petechiae: A Review,” (2000) 45 *J. Forensic Sc.* 1274.

Those phenomena may be identifiable during an autopsy, providing an evidentiary basis for the pathologist to conclude that the weapon's electrical current may have been the triggering event.

However, the human body may react to a conducted energy weapon discharge in a way that does not leave physical evidence that would be available to a pathologist during an autopsy. For example, several presenters told me that stress produces adrenaline, which causes the heart to race, increases blood pressure, and changes voltages across heart cell membranes, making a person more susceptible to ventricular fibrillation, either directly, or indirectly through acidosis. When acidosis occurs, it can take some time for the blood's pH level to return to normal and, because of this, one cannot eliminate ventricular fibrillation as a possible cause of death just because death did not immediately follow discharge of a conducted energy weapon.

Similarly, some studies have demonstrated a progression from ventricular tachycardia to ventricular fibrillation over several hours.

Finally, death may have occurred earlier than observers think. Dr. Janusz explained this as follows:

And an acute condition where you have a low cardiac output and a low blood pressure, so a partially perfused brain will often cause seizures. That won't go on all that long after the condition proceeds to ventricular fibrillation because all cerebral activity will stop within a minute or so. But you'll see a patient, or a victim, lying on the ground thrashing around, and may not recognize that the heart has stopped, because he's still moving. Agonal gasping reflex is something that's present frequently or universally after cessation of flow to the brain and it's a trigger in the brain stem that causes an attempt to take a big breath. So that if you observe somebody who has just expired and watch for a minute or two or three or five minutes, you will see every so often an attempt at a large breath. And if you had someone lying on the ground and he wasn't really being examined carefully and they saw a respiratory effort from time to time, they might conclude that he was breathing, whereas in fact the cardiac arrest had occurred a few minutes before.²⁰¹

201 Transcript, May 20, 2008, pp. 27-28.

I am satisfied that there are some circumstances in which a conducted energy weapon may have caused or contributed to a death, even though the death occurred (or appeared to occur) some time after the weapon was discharged.

C. RESPIRATORY RISKS

Human life is as dependent on the lungs as it is on the heart. The lungs perform two principal functions. They extract carbon dioxide from the blood and expel it from the body through the mouth, and they infuse the blood with oxygen, which is then circulated to cells throughout the body.

Breathing or respiration facilitates these exchanges, and breathing results from the regular contraction and relaxation of the intercostal muscles around the rib cage and the thoracic diaphragm, a sheet of muscle separating the thoracic cavity from the abdominal cavity.

If breathing ceases, the body's vital organs are starved of oxygen. The heart stops beating, the brain stops functioning, and death soon ensues.

The intercostal muscles and the thoracic diaphragm are skeletal muscles, precisely the types of muscles that a conducted energy weapon is designed to incapacitate. For this reason, several researchers have investigated whether the current from a conducted energy weapon is capable of interfering with the vital function of these muscles:

- *Jauchem*²⁰²—six anesthetized pigs were subjected to repeated five-second X26 shocks across the chest, followed by five-second rests, for three minutes. Their respiration rates were monitored, and the researchers reported: “Complete cessation of breathing was noted to occur during each five-second TASER exposure.”
- *Ho*²⁰³—52 human volunteers attending a manufacturer's training program received either a 15-second continuous X26 discharge, or three consecutive five-seconds-on/one-second-off discharges. The electrodes were placed on

202 Jauchem, J.R., et al., “Acidosis, Lactate, Electrolytes, Muscle Enzymes, and Other Factors in the Blood of *Sus scrofa* Following Repeated TASER Exposures,” (2005) *For. Sc. Int'l*.

203 Ho, J.D., et al., “Respiratory Effect of Prolonged Electrical Weapon Application on Human Volunteers,” (2007) 14 *Acad. Emerg. Med.* 197.

the subject's trunk in positions to span a majority of the trunk while including transdiaphragmatic positioning. Common placement included ipsilateral and contralateral positioning at shoulder and hip, pectoral region and leg, and scapula and buttock. They found no evidence of breathing impairment during either type of weapon exposure, from which they concluded: "It does not appear that prolonged CEW exposure causes a decreased tidal volume, hypercapnia, hypoxia, or apnea." During his oral presentation, Dr. Ho told me that they actually found that one parameter that they measured (minute ventilation) actually improved, which he interpreted to mean that subjects hyperventilated during weapon exposure in order to blow off excess carbon dioxide caused by acidosis.²⁰⁴

These studies are, in my view, inconclusive. While the animal study demonstrated a cessation of breathing during the weapon's discharge, the human study showed just the opposite. The animal study suggests the *capacity* of a conducted energy weapon to disrupt breathing in humans, while one limited human study documented that the breathing of 52 subjects was not interrupted. Would the human study results have been different, for example, if the duration of the weapon discharge had been greater? I am reluctant to generalize from these findings. However, several reports suggest that a link may exist:

- *U.S. Department of Defense*²⁰⁵—the Human Effects Center of Excellence conducted a human effectiveness and risk characterization study of the M26 and X26 weapons, during which it identified several unintended effects, including acute respiratory impairment and failure:

If long periods of uninterrupted EMI activation did occur, the risk of unintended adverse effects such as ... impairment of respiration ... could be severe.

If placements of the darts induces spasm of the muscles of respiration (diaphragm and intercostal muscles), one can hypothesize that the subject may not be able to breathe. Furthermore, personal

204 Transcript, May 16, 2008, pp. 13-14. However, it is possible that respiration was inhibited during the 15-second discharge, but that hyperventilation in the 45 seconds after discharge more than made up for the initial respiratory inhibition; *i.e.*, the calculated minute ventilation was improved, but this parameter masked the fact that respiratory inhibition occurred. Dr. Ho also told me about his as-yet-unpublished study in which human volunteers were exposed to a 10-second weapon discharge, in push-stun mode, in the shoulder area. Ultrasound images of the diaphragm showed that in all cases respiration continued; in fact, the diaphragm moved faster during discharge, indicating hyperventilation (pp. 21-22).

205 Maier, A., et al., *Human Effectiveness and Risk Characterization of the Electromuscular Incapacitation Device—A Limited Analysis of the TASER*, by the Joint Non-lethal Weapons Human Effects Center of Excellence," 2004.

observations during animal studies in pigs ... suggest that the test animals hold their breath while being stimulated with the TASER. If humans respond similarly, one would expect no or minimal normal breathing while being exposed. In an extreme case of several minutes exposure during which respiration is impaired, acute respiratory failure, which is immediately life-threatening, could plausibly develop. Acute hypoxia and CO₂ retention cause acidosis, and failure of aerobic cellular production in all tissues with earliest effects seen in the brain and heart.

- *Canadian Police Research Centre*²⁰⁶—it stated that “depending on probe location in the upper torso, it appears likely that the muscular tetany produced by a TASER deployment could impair a subject’s respiration.... If breathing is stopped or impaired during the five-second cycle, this could affect both CO₂ and pH levels. If the TASER is cycled continuously for 15-20 seconds, the effects could be expected to increase.” The authors emphasized that respiratory impairment becomes particularly crucial when the weapon is used or restraint is applied during or after a prolonged physical struggle. They concluded:

The issue related to multiple CED applications and its impact on respiration, pH levels, and other associated physical effects, offers a plausible theory on the possible connection between deaths, CED use, and people exhibiting the symptoms of ED [excited delirium] (p. 18).

There is another concern associated with interruption or cessation of breathing—acidosis. If the current from a conducted energy weapon interferes with a subject’s breathing, that could lead to an increase in the carbon dioxide in the blood, creating carbonic acid, a resulting increase in acidity, and the lowering of the pH level leading to acidosis. As discussed earlier, acidosis can disturb blood electrolytes (such as potassium) and lactate, and can also affect the heart’s electrical conduction system, both of which can trigger fatal heart arrhythmias. Acidosis may last for an hour or longer after the initial weapon discharge, which means that the arrhythmia and/or death may be postponed.

One further complication should be noted. As Dr. Ho and others told me, acidosis is cleared primarily by the lungs. Treatment therefore requires stopping further muscle

206 Manojlovic, D., et al., *Review of Conducted Energy Devices, Technical Report TR-01-2006*, August 22, 2005.

contractions, and restoring oxygen and carbon dioxide exchange. In a hospital setting, providing oxygen is a standard protocol. In the absence of such medical intervention, the body's natural response is to hyperventilate. But hyperventilation can be frustrated if a subject is lying face down (prone), if pressure is applied to the chest or neck area, or if the subject has been restrained or is struggling with police officers who are attempting to restrain the subject. Hence, what would normally be an appropriate police response may in these circumstances prevent the subject's body from clearing acidosis, thereby increasing the risk of cardiac arrhythmias.

D. METABOLIC RISKS

Rhabdomyolysis is muscle damage. It can be brought on by prolonged muscle exertion (*e.g.*, long-distance running, struggling with or fleeing from police), from direct electrical damage to muscles,²⁰⁷ hyperthermia (*i.e.*, overheating), genetic defects, or ingestion of alcohol or drugs. The primary cause of death in the first 12–24 hours is cardiac arrest from electrolyte (*e.g.*, potassium) imbalances. It also causes the release of muscle breakdown products (*e.g.*, myoglobin, creatine phosphokinase, and potassium) into the bloodstream. If these products are released in levels higher than the kidneys can clear, they can cause acute renal (kidney) failure (usually after 24 hours). Hypocalcemia (low blood calcium) can also occur when high levels of calcium ion leave the blood and flow into damaged muscles, worsening the muscle damage and the acidosis in a vicious cycle.

One of the presenters raised the possibility that a conducted energy weapon could cause rhabdomyolysis. Dr. Butt stated:

A number of persons who are subjected to the TASER are at risk in the beginning of having hyperthermia or an increased temperature. And one of the

²⁰⁷ In one case a 17 year old who had high-voltage electrical contact with his head was diagnosed with rhabdomyolysis, which led to acute renal failure: Sungur, M., "Rhabdomyolysis Caused by Electric Injury," (2001) 20 *J. Emerg. Med.* 195.

features pathologically of hyperthermia is disruption, focal disruption of striated or voluntary muscle called rhabdomyolysis.²⁰⁸

There is some anecdotal evidence to support this concern. In Alabama, an emergency department physician diagnosed rhabdomyolysis in each of two young men who were admitted after having been subjected to conducted energy weapon discharges.²⁰⁹ One of the subjects had no prior medical record, but had become severely agitated and began assaulting his mother. He was not intoxicated by alcohol or drugs and, on discharge, was diagnosed with a non-specific psychotic state. The other subject had a history of depression, schizophrenia, ADHD, and marijuana and cocaine abuse. The authors concluded:

Emergency physicians must consider potential complications and confounding variables as they evaluate patients who have been immobilized by a TASER device. The literature suggests a 1 percent incidence of mild rhabdomyolysis for these patients. Most of these patients will, however, have other conditions or have been involved in scenarios also associated with the development of rhabdomyolysis.

In my view the evidence is inconclusive whether the current from a conducted energy weapon is capable of causing rhabdomyolysis. Having said that, there does appear to be some correlation between a highly agitated (*e.g.*, hyperthermic) subject, the discharge of a conducted energy weapon, and rhabdomyolysis. I will discuss this correlation later in this part.

E. MENTAL ILLNESS

1. Police as first responders

In 2006, the BC Ministry of Health asked the Centre for Applied Research in Mental Health and Addiction (CARMHA) at Simon Fraser University to study the related issues of homelessness, severe addictions, and mental illness. CARMHA found that in British

208 Transcript, May 21, 2008, p. 7.

209 Sanford, J.M., et al, "Two Patients Subdued with a TASER Device: Cases and Review of Complications," (2008) *J. Emerg. Med.*

Columbia approximately 130,000 adults meet the criteria for severe addiction and/or mental illness. Within that group, an estimated 11,750 are also absolutely homeless.²¹⁰

People with severe addictions and/or mental illness are a disproportionate drain on police resources. In 2007 the Vancouver Police Department collected data over a 16-day period of police incidents that involved a person who was suffering from the effects of a mental illness.²¹¹ Across the city as a whole, 31 percent of all calls for service involved at least one mentally ill person.²¹² This amounted to approximately 58,900 out of 190,000 annual calls, for a direct annual cost of \$9 million.

Dr. Nancy Hall, a policy consultant with the BC Division of the Canadian Mental Health Association told me that a recent study showed that 30 percent of people accessing the mental health system did so through the police. Ms. Camia Weaver, justice coordinator for the association told me that “police in British Columbia and actually across North America are increasingly first responders to mental health crises, and there is no doubt that they have become the front-line mental health workers in recent years.”²¹³

From the material that I have reviewed, including video clips of real-life incidents, there can be no dispute that police officers are being called more frequently to deal with subjects whose inappropriate and sometimes violent behaviours suggest mental illness or alcohol/drug incapacitation, or both. When an officer deploys a conducted energy weapon against the subject in such circumstances, the crisis is sometimes resolved. At other times, the subject inexplicably collapses into unconsciousness, and sometimes dies. This scenario, perhaps the most controversial aspect of conducted energy weapon use, is the issue to which I now turn.

210 Patterson, M., et al., “Housing and Support for Adults with Severe Addictions and/or Mental Illness in British Columbia,” Centre for Applied Research in Mental Health and Addiction, Faculty of Health Sciences, Simon Fraser University, February 2008, pp. 8-9.

211 Wilson-Bates, F., “Lost in Transition: How a Lack of Capacity in the Mental Health System is Failing Vancouver’s Mentally Ill and Draining Police Resources,” January 2008, pp. 12-13.

212 This level rose to nearly 50 percent in District 2, which includes the Downtown Eastside.

213 Transcript, May 7, 2008, p. 19.

To put into context the discussion that follows, it would be useful to list the cluster of physical symptoms and behaviours that police officers frequently encounter, as set out in the manufacturer's training materials:

- bizarre or violent behavior;
- signs of overheating/profuse sweating;
- disrobing;
- violence toward/attacking glass, lights, and reflective surfaces;
- superhuman strength and endurance;
- imperviousness to pain—self-mutilation;
- disturbances in breathing patterns or loss of consciousness; and
- complaints of respiratory difficulty.²¹⁴

2. What psychiatrists and other medical experts told me

I am indebted to several psychiatrists and other medical experts who greatly enhanced my understanding of mental illness, specifically delirium. I summarize their oral presentations below.

a. Dr. Shaohua Lu

Dr. Lu is a psychiatrist at the Vancouver General Hospital's medical surgical unit. He assesses, on a daily basis, patients with severe addictions and severe mental illnesses such as schizophrenia, bipolar disorder, and delirium, and has seven years' previous experience in an emergency psychiatry unit.

Dr. Lu told me that the *Diagnostic and Statistical Manual, Volume IV* (DSM-IV) defines delirium as a disturbance of the conscious mind, with reduced ability to focus or sustain attention. It involves a change in cognition, or the development of a perceptual disturbance that is not better accounted for by a pre-existing dementia. The disturbance develops over a short time, and tends to fluctuate during the course of the day.

214 TASER International, "User Certification Course * TASER X26 Electronic Control Device," Version 14.0, PowerPoint presentation, slide 196.

If delirium can be broadly defined as a generalized cognitive and brain dysfunction, it presents itself as follows:

- *Impaired level of consciousness*—the person will present as drowsy or agitated, typically with a disrupted sleep-wake cycle.
- *Attention deficits*—the person will be disoriented, not knowing what time it is or, in more severe cases, who they are. They will have poor attention and concentration, experiencing difficulty following basic instructions.
- *Language deficits*—the person will have impaired comprehension and speech, with difficulty in articulating their thoughts, which may cause them to appear more aggressive than normal.
- *Memory deficits*—the person may have impaired short-term memory and working memory, and experience difficulty answering questions about where they are and what they are doing.
- *Executive cognition function impairments*—there is a generalized disorganization and impaired insight (meaning that they do not have an appreciation that they are in a disorganized state), with a decreased ability to plan, organize, and execute tasks.
- *Thought disturbances*—the person will often have delusional thinking and illogical thought processes, such as thinking they are being abducted or, in the case of older patients, thinking they are still fighting World War II. This can lead to bizarre behaviours.
- *Disturbed effects*—most patients with delusions are in an unstable state—scared, frightened, and in a state of anxiety and irritability.
- *Perceptual disturbances*—the person may misinterpret external and internal stimuli and, depending on severity, may experience visual, auditory, or tactile hallucinations.
- *Psychomotor changes*—the person typically experiences agitation and restlessness, which can have a profound impact on their strength. Even elderly patients can display tremendous strength. This “defensive aggression” is rarely directed at any specific individual and is not meant to harm anyone. Rather, the person is just frightened, and may barricade himself or herself, or throw things as a reaction to what they perceive as an intrusion into their personal space.
- *Autonomic instability*—delirium is a medical, physiological response to external insults (*i.e.*, changes in perception), and patients will almost always exhibit autonomic instability, including rapid breathing, sweating, increased heart rate, and unstable blood pressure.

Dr. Lu told me that psychiatrists do not use the term “excited delirium.” In their understanding, most patients with delirium are in an excited and agitated state. Those who use the term “excited delirium” appear to be describing a patient who has delirium with a highly agitated and extremely restless presentation—“the more severe spectrum of delirious presentation.”

Dr. Lu emphasized that delirium is not a medical disease. It is a syndrome, and it is a symptom of many underlying problems. He then listed the principal predisposing and risk factors: advanced age, dementia, medical co-morbidity, a history of alcohol abuse, male gender, sensory impairments (especially hearing and vision), unfamiliar settings, language barrier, and dehydration.

There are also numerous precipitating factors that can put the person over the edge and generate a delirious state, including environmental change, pain, emotional stress or social isolation, prolonged sleep deprivation (including long-haul flights), prolonged sensory deprivation or stimulation, metabolic disturbance (*e.g.*, dehydration or electrolyte changes), neurological conditions (*e.g.*, stroke or head injury), surgery, severe medical illness or trauma, exposure to anesthetics, infections, hypoxia (shortage of oxygen), fever, hypothermia, or drugs and medications. A simple dose of morphine for pain, or heroin, can bring on delirium. Cocaine and psycho-stimulants are highly precipitating agents for delirium, as is acute alcohol or sedative withdrawal.

Dr. Lu added that “the more vulnerable the individual, the less noxious insult is necessary to precipitate delirium. The healthier the individual, the more trauma and more medical problems are necessary to get into that state.”

Cocaine (and other psycho-stimulants such as crystal methamphetamine) has a direct stimulation effect on the cardiac function, particularly in new users. It will increase the heart rate and the demand for oxygen, and it can potentially disrupt the rhythm of the heart. In combination with low doses of alcohol, cocaine can also form additional compounds that stimulate the speed of the heart.

It is often difficult, even for psychiatrists, to determine whether a patient is in a delirious state, as opposed to extreme depression or psychosis. In extreme cases, delirium is a medical emergency. In otherwise healthy individuals, sudden onset of delirium may be a warning sign of potentially life-threatening metabolic changes or extreme fatigue and exhaustion, which can lead to cardiac arrest and sudden death.

Dr. Lu told me that in a hospital setting, professionals use a variety of techniques to manage delirium. They will use social restraint (which may mean placing the patient in a comfortable, familiar setting), reduce stimulation, bring in a family member or friend, or find someone who speaks the patient's language. In cases of dehydration, they will rehydrate the patient. They will normalize the patient's sleep, and attempt to correct the underlying medical problem. If it is necessary to physically restrain a highly agitated patient, they will initiate pharmacological treatment (*e.g.*, benzodiazepine or an antipsychotic drug) as soon as possible to reduce agitation.

Dr. Lu offered practical suggestions for first responders who must deal with delirious subjects:

- *Education, training, and recognition*—it may not be particularly helpful to attempt to determine whether the subject's delirious state is due to cocaine or methamphetamine ingestion, psychosis, extreme psychosis as a result of untreated schizophrenia, or severe bipolar. Rather, it is important that a first responder recognize that a delirious patient can have autonomic changes such as sweat, disorganization, disorientation, and defensive aggression. They should recognize that patients are frightened and may not be capable of following basic instructions, and they should receive training on how to talk to patients and calm them down.
- *Use containment whenever possible*—this means keeping the subject in a prescribed area (but not physically restraining them) in order to buy time to bring in familiar support.
- *Medical/paramedic backup*—this should be brought in as soon as possible if it appears that a subject is in a delirious state.
- *Restraints and conducted energy weapons*—first responders should be aware of the medical risks associated with physically restraining a delirious subject, or deploying a conducted energy weapon against them. In the case of an otherwise healthy individual, they likely have profound exhaustion and electrolyte changes before delirium kicks in. At that stage, any additional

insult (*e.g.*, struggling or fighting) can lead to the body just giving out, resulting in cardiac arrest and death.

- *Monitor basic vital signs*—monitor the heart rate, breathing rate, and level of consciousness.
- *Severe agitated delirious state*—if medical/paramedic backup is present, then sedation, oxygen, IV fluids, and a low-stimuli environment should be considered. Cooling measures are particularly helpful for young males whose delirium is caused by cocaine or crystal methamphetamine or other drug-induced agitated state.

b. Dr. Joseph Noone

Dr. Noone is a psychiatrist at the Riverview Hospital in Coquitlam, BC, serving as the medical director of the Adult Program and medical manager of the Psychiatric Intensive Care Unit. He is a clinical professor of psychiatry at the University of British Columbia, and provides on-call emergency psychiatric services in the emergency departments of three Lower Mainland hospitals. He is also a director of Code White training, which focuses on team interventions with higher levels of aggression. The main focus of his clinical practice for the past 27 years has been the prevention and management of aggressive behavior in healthcare.

Dr. Noone told me that delirium is an acute confusional state with fluctuating levels of consciousness. There is usually hyperactivity, but occasionally lethargy. There is a rapid succession of confused, unconnected ideas, often with illusions (visual misperceptions) and hallucinations. Delirium is most frequently caused by drugs, a closed-head injury, hypoglycemia, electrolyte disturbance, or an acute psychosis such as schizophrenia or manic or bipolar mood disorder.

He emphasized that advanced delirium is a medical emergency, not a psychiatric emergency, requiring intensive medical assessment and management. The goal of treatment is to reverse the causes.

Dr. Noone said that “excited delirium” is not a valid medical or psychiatric diagnosis. In his view it provides a convenient post-mortem explanation for in-custody deaths, where physical and mechanical restraints and conducted energy weapons were employed. His main concern about usage of this term is that “it’s being used more

and more frequently in an attempt to automatically absolve law enforcement from any and all responsibility for their involvement in sudden in-custody deaths.”²¹⁵ It would be preferable to:

- avoid use of the term “excited delirium” (which implies a diagnosis), and use the more descriptive, less judgmental term of “emotionally disturbed person”; and
- focus on the principal risk factors for in-custody death—positional asphyxia, cocaine-induced psychosis or delirium, and neuroleptic malignant syndrome.

Dr. Noone said that the best way to treat an emotionally acting-out person is to do the following:

- *Assess*—you should approach the situation objectively and with an open mind, considering all the possibilities. You should take your time and remain calm. If the degree of force used by the professional is measured on a scale of one to ten, police officers often go in at eight or nine, and this will likely escalate rather than defuse the situation. From his experience, it is much more effective to go in at about three or four—if you go in low, you can usually get compliance.
- *Contain*—it is unwise for one, two, or even three people to attempt to contain a highly agitated subject. From Dr. Noone’s experience, a team response is much more effective. Instead of grabbing the subject roughly, “gentle touching, not touching, showing support is what will bring this confused person down to a level where you can deal with them.”
- *Treat*—once the subject has been transported to the emergency department, it is important to treat the subject for the underlying medical condition. Delirium is a superimposed condition for which there are medical reasons. Often this type of aberrant behaviour is not psychotic—“The big mistake we don’t want to make is to treat something as behavioural when in fact it has a medical cause.”

When asked about the appropriateness of deploying a conducted energy weapon against a person in a delirious state, Dr. Noone replied:

I believe that highly agitated individuals, even more so if they are in delirium, are at very high risk of further medical compromise, due to metabolic, cardiac, respiratory, or other complications. To “taser” such vulnerable individuals

215 Transcript, May 16, 2008, p. 41.

would be contraindicated medically due to the risk of death, in my opinion. That's a clinical opinion.²¹⁶

Dr. Noone referred to two paragraphs of the RCMP Operational Manual²¹⁷ that until February 2009 stated:

3.2.2. Individuals experiencing excited delirium require medical treatment which first requires that they be restrained.

3.2.3. In considering intervention options for excited delirium cases, the use of the [conducted energy weapon] in a probe-mode deployment may be the most effective response to establish control.

He disagreed with that policy for several reasons. First, “excited delirium” is not a medical or psychiatric condition, and use of the expression in the manual could refer to just about anything. Second, medically untrained people (including police officers) may apply this policy to any agitated individual, whether delirious or not, which would be a worrisome development. Third, use of a conducted energy weapon on a small number of highly agitated individuals who are really in delirium is strongly medically contraindicated. The safest and most effective method of restraint and transportation would be a trained team intervention using soft empty-hand control, while working to maintain a relationship with the individual.

He said that the healthcare approach to prevention and management of aggressive behavior is respect and professionalism, not power and control, which only causes conflict and incites the situation. When control is required, it is important that it be applied in a supportive, respectful manner. Communication is very important, including body language, facial expression, managing the distance, speed of movement, and the volume, tone, rate, and rhythm of speech. He has found that in the vast majority of emotionally disturbed, mentally ill and alcohol/drug-intoxicated people, the use of presence, dialogue, and empty-hand control measures achieve compliance, without resort to pain compliance or closed-fist responses or impact weapons.

216 Transcript, May 16, 2008, p. 49.

217 RCMP Operational Manual—Chapter 17.7—Conducted Energy Weapon.

c. Dr. Maelor Vallance

Dr. Vallance is currently clinical emeritus professor of psychiatry at the University of British Columbia. He has practised psychiatry for more than 40 years, including administratively as chair of the Forensic Commission and clinically as director of emergency psychiatric services at Vancouver General Hospital.

Dr. Vallance told me that the principal features of delirium are a reduced clarity of awareness of the environment or clouding of consciousness that leads to considerable impairment of attention. Anything coming from the outside, including instructions from the police, may not get through. Even if they do get through, they may not be held in consciousness long enough for the individual to act on them.

There are also changes in cognition, such as disorientation (especially for time), impairments of memory (so that warnings may be quite useless), and problems understanding and expressing language. There may be perceptual disturbances, such as illusions and hallucinations, where they will misinterpret what they hear or see.

Delirium fluctuates. It is usually worse at night because there is less orienting stimulation to keep them on track. It also varies with the level of excitement—the greater the excitement, usually, the greater the derangement.

Dr. Vallance said that there are many underlying causes of delirium, including a general medical condition (*e.g.*, liver disease, AIDS, gross dehydration, electrolyte disturbances or imbalance, acidosis), drug intoxication (especially cocaine and crystal methamphetamines), alcohol withdrawal (*e.g.*, delirium tremens), or a combination of factors (*e.g.*, someone with AIDS who also has cocaine intoxication, or someone with pneumonia who has an aberrant reaction to a medication).

It is not always easy to differentiate delirium from other conditions (*e.g.*, excited catatonic schizophrenia, mania, or agitated dementia), particularly in the community and especially when the person is severely agitated. Observation alone is insufficient for diagnosis; interactions with the individual and collateral data are also required.

Police officers may observe agitation or derangement, but would have no way of knowing the specific condition with which they are dealing.

Dr. Vallance told me that “excited delirium” is not a medical term. It is not described in the medical literature, nor is there real clinical evidence of it as a separate entity. There is no specific pathology post-mortem. He said:

The symptoms and the behaviours that you see in what is called “excited delirium” are essentially indistinguishable from a deranged, agitated individual in the community, irrespective of the underlying cause. And there is no known specific pathology. In short, there’s nothing to identify it.

The features as they are described of excited delirium ... are essentially the features that you would find in any severely agitated, deranged individual, whether they are suffering from a true delirium with all of its underlying medical causes, a severely agitated schizophrenic, or a severely agitated manic patient; there’s nothing to differentiate it from these conditions.²¹⁸

Dr. Vallance said that deaths do occur in temporal proximity to various interventions, which may include a conducted energy weapon, forceful physical restraint, chokeholds, or pepper spray. This occurs mostly in those individuals who are the most physically compromised in our community, such as those with a serious medical condition, poor nutrition, serious dehydration, or cocaine intoxication. Also, their level of exhaustion is an extremely important factor. One would expect that as exhaustion approaches there would be a gradual slowing down of activity and a lessening of resistance. However, just the opposite occurs. It is like a car with the gas pedal fully down. It will go at full speed until it runs out of gas. If such people are subjected to a conducted energy weapon when they are “running out of gas,” it is analogous to someone pressing down on the brake pedal while the gas pedal is still fully down—the car spins out of control. It is when such highly agitated people are physically restrained and then collapse into inactivity that they are most vulnerable. He said:

218 Transcript, May 21, 2008, p. 21.

We need to have protocols for intervention, particularly using [conducted energy weapons] because we know relatively little about them. When should they be used and when should they not be used? ...

The first step in intervention should very rarely be physical restraint of any kind. The physical restraint by itself tends to escalate the situation, when the purpose really should be to de-escalate. The escalation of the situation with further agitation and excitement is a danger in itself.

In order to intervene without using physical restraint as a first step, I believe it's necessary to develop specialized intervention teams. There is specific training in that form of intervention. I believe that it's too much to ask the police force to have the level of training that is available as a general training throughout the police. It requires specific selected officers to be specifically trained under our very extensive training programs now. Even then, I don't believe that they should act alone. I believe it should be a team effort.²¹⁹

d. Dr. John Butt

Dr. Butt is a forensic pathologist in Vancouver, BC. In the 1970s, he was instrumental in the reform that converted Alberta's coroner system into a medical examiner system. He served as Chief Medical Examiner in Alberta for 16 years and as Chief Medical Examiner in Nova Scotia for three years. In 1990, he served as president of the National Association of Medical Examiners in the U.S.A. In 2004, he and several colleagues provided medical expertise to the Victoria Police Department's report on conducted energy weapons.

Dr. Butt told me that the principal role of a coroner or chief medical examiner is to determine the medical cause of death. If, on autopsy, there is no pathology present explaining the death, then the circumstances surrounding the death become very important. This is relevant in deaths proximate to use of a conducted energy weapon, because there is no specific pathology related to the use of such weapons. For example, the electrical current from a weapon is not sufficient to leave burn marks (in contrast to electrocution from power lines), and even if the weapon caused a heart arrhythmia, that would not be evident on autopsy.

²¹⁹ Transcript, May 21, 2008, p. 24.

In such “negative autopsy” cases, studying the proximate events is essential to developing an understanding of the mechanism of death. This is particularly true when dealing with emotionally disturbed subjects, many of whom display hyperactivity, agitation, hyperthermia, feats of strength, numbness to pain, and a disposition to resist force. Dr. Butt said that researchers were aware of sudden in-custody deaths long before conducted energy weapons were introduced, and several explanations were proposed, including asphyxia (due to kneeling on the subject’s trunk or neck and thus restricting breathing) and metabolic acidosis (due to sudden changes to the acid level of the blood brought on by a struggle or other convulsive muscle movement). Pathologists sometimes do not understand how these mechanisms may have contributed to a death, and may assign death to “sudden death associated with custodial death syndrome” or “sudden death associated with excited delirium (custody)” without going behind the symptoms to find the underlying anatomical cause of death.

Dr. Butt spoke in favour of involving mental health professionals (in addition to paramedics) when dealing with emotionally disturbed subjects, because of their skills in de-escalating tense situations—cooling off—“puts the situation into a much safer mode for everybody.”

e. Dr. Christine Hall

Dr. Hall is a specialist in emergency medicine in Victoria, BC. She also has a master’s degree in epidemiology. Her interest in conducted energy weapons arose from her experience with a surprising number of emergency patients who are acutely agitated, disruptive, violent, and incoherent; who become involved in profoundly intense physical interaction with the police; and who, when finally physically controlled in some way, sometimes die unexpectedly within minutes.

Her review of the literature showed that such in-custody deaths pre-date introduction of conducted energy weapons, and early attempts to explain such deaths were unpersuasive. Her particular professional interest is what to tell police officers to do

when they encounter an agitated and incoherent person. She offered three suggestions:

- *Recognize the medical emergency*—although the acutely agitated violent person may be engaged in behaviour that manifests as a police problem, the person may well be a medical emergency.
- *Facilitate medical treatment*—the person needs to get to a hospital; in urban areas an ambulance crew with advanced life support skills may be able to medicate the person with a sedative once the person is under some physical control.
- *Getting control of the person*—the problem is that there is no simple way to give care to a violent, combative, and incoherent person without first getting control over them. The ideal response is to contain the situation until medical backup arrives, but it is not always possible for the police to stand by if people are at physical risk or property is being destroyed.

f. Dr. Michael Webster

Dr. Webster has a doctorate in counselling psychology. He initially practised in several federal penitentiaries in British Columbia, but subsequently developed an expertise in crisis situations, hostage-takings, barricaded person incidents, kidnappings, and incidents of public disorder. He now provides consulting services to policing bodies in Canada and internationally.

Dr. Webster agreed with other presenters that police patrol personnel are often faced with individuals exhibiting bizarre and/or aggressive behaviours, shouting, elevated suspicion, anxiety or panic, violence, unexpected physical strength, and profuse sweating. He expressed the following concern:

Even with an extensive autopsy, there is no definitive way to prove that someone died of excited delirium. It may be that police and medical examiners are using the term as a convenient excuse for what could be excessive use of force or inappropriate control techniques during an arrest.

He told me that properly trained mental health professionals are aware that the more active variety of delirium increases the risks associated with physical restraints. He said that most mental health professionals would agree that people manifesting this symptom picture are in a state of hyperarousal and are in crisis.

Crisis intervention is designed to assist people in lowering their arousal level and regaining their mental balance, enabling them to use better judgment, make decisions, and become better problem solvers. The method most amenable to police first responders is the creation of a safe, non-threatening environment. In his words, “The first rule of crisis intervention is: no more crisis.” As a police psychologist, Dr. Webster said that from a review of conducted energy weapon tragedies, it is not difficult to see numerous violations of this rule.

He recommended that Canadian law enforcement recruits be provided with crisis intervention training during their basic police training, which usually entails

five to seven days and covers a broad array of topics, including drug awareness, mental health issues, conflict and crisis theory, crisis intervention, verbal and non-verbal communication techniques, and experiential exercises.

g. Canadian Mental Health Association, BC Division

Camia Weaver, a lawyer who serves as justice coordinator for the BC Division of the Canadian Mental Health Association, told me that in 2003 the association published *A Study in Blue and Grey*, dealing with issues and solutions to interactions between police and people with mental illness. It outlines the best practices in police interventions and has become a primary resource for the development of comprehensive programs of police response to persons with mental illness.

In 2005, the association started a Mental Health and Police project, a collaborative process between police, mental health professionals, consumers, and family members. It mapped the first response to people with mental illness in the community, the gaps in that response, and developed action plans. In 2006, that project was expanded from the original six communities to nine communities.

The association strongly believes that there should be standardized and improved crisis intervention training for dealing with people with a mental illness. There is very little such training at the Justice Institute for police recruits and, according to Ms. Weaver, “There is a philosophical difference, almost an opposition, between the typical police training, which is command and control, and the tenets of effective

crisis intervention communication techniques.” Rather than relying on a designated police cruiser with a psychiatric nurse accompanying the officer (such as Car 87 in Vancouver and Car 67 in Surrey), best practices suggest that:

[T]he key components for the most effective crisis response include a core of carefully selected, first-call crisis response officers who are available in all districts 24 hours a day, seven days a week [with] specialized dispatch because a number of the issues that come up in terms of crisis response have to do with the ability for a dispatcher to accurately assess and obtain and provide the information needed for an effective response.

Interactions with mentally disordered persons are less likely to become combative when a de-escalating communication approach is used instead of a command and control approach. This type of crisis intervention team approach has already been implemented in numerous cities, including Memphis, Portland, and Seattle.

Ms. Weaver told me that research data confirms the benefits of using crisis intervention team models to reduce injury and death (to the mentally ill and to the police) and to increase more appropriate outcomes to police interventions.

Ms. Weaver said that when the police first began using conducted energy weapons in British Columbia in 1999, the BC Division of the association endorsed their use as a less lethal alternative to deadly force. While the BC Division continues to endorse their use as a preferred alternative to lethal force options, it is concerned about the weapon’s placement as an intermediate weapon on the use-of-force continuum, which means that it is authorized for use at the early stage of active resistance. The division strongly recommends that conducted energy weapons be used only as an alternative to deadly force when all other options are exhausted.

She added that “excited delirium” is not a recognized medical condition, but rather a term used to describe a cluster of symptoms which have not been clearly attributed to any specific cause. When this cluster of symptoms is present, there is an increased potential for death. Consequently, policies surrounding conducted energy weapon use should require that medical personnel be called on an emergency basis before or as soon as possible after the weapon is used, when these symptoms are present. If it is a

worst-case scenario where all other methods of crisis intervention have not de-escalated the situation and a conducted energy weapon is used as a last resort, it is essential that officers be ready to move in and restrain the subject after only one weapon discharge, and that emergency medical personnel be standing by, ready to move in without delay.

3. Conclusions

From this review, I have reached several conclusions.

First, police officers are called upon, with increasing regularity, to deal with emotionally disturbed people who display extreme behaviours, including violence, imperviousness to pain, superhuman strength and endurance, hyperthermia, sweating, and perceptual disturbances.

Second, such emotionally disturbed people are often at an impaired level of consciousness; may not know who they are or where they are; may be delusional, anxious, or frightened; and may be unable to process or comply with an officer's commands.

Third, this cluster of behaviours is not a medical condition or a diagnosis. Rather, the behaviours are more accurately understood as symptoms of a variety of underlying medical conditions that, in extreme cases, may constitute a medical emergency. For example, the subject's extreme fatigue or exhaustion, or metabolic changes, may lead to cardiac arrest. Similarly, cocaine intoxication may stimulate the heart, leading to deadly arrhythmias.

Fourth, a police officer encountering an emotionally disturbed person is not trained to make a medical diagnosis, and it is, in any event, not appropriate to do so. The officer's challenge is how to deal with the observable behaviours, whatever the underlying cause. It is, in my view, not helpful to characterize people displaying these behaviours as suffering from "excited delirium."²²⁰ Doing so implies that "excited

220 As of February 2009 the RCMP's Operational Manual no longer uses the term "excited delirium."

delirium” is a medical condition or diagnosis, when mental health professionals uniformly reject that suggestion. To the contrary, I am satisfied from the oral presentations of several psychiatrists, that the behaviours observed by police officers are entirely consistent with an extreme form of delirium, which is a recognized cognitive and brain dysfunction, a symptom of an underlying medical condition.

Fifth, it is equally troubling to hear, after a death proximate to conducted energy weapon use, that it was not the weapon that caused the death, but “excited delirium.” The danger with that line of reasoning is that the clusters of extreme behaviours observed by the police did not cause the death any more than extreme pain causes the death of a burn victim. Assigning responsibility to such symptoms (in the guise of a diagnosis) conveniently avoids having to examine the underlying medical condition or conditions that actually caused death, let alone examining whether use of the conducted energy weapon and/or subsequent measures to physically restrain the subject contributed to those causes of death.

Sixth, the real challenge facing the policing community, and our policy-makers, is determining how police officers should respond to such emotionally disturbed people. The unanimous view of mental health presenters was that the best practice is to de-escalate the agitation, which can best be achieved through the application of recognized crisis intervention techniques. Conversely, the worst possible response is to aggravate or escalate the crisis, such as by deploying a conducted energy weapon and/or using force to physically restrain the subject. I was impressed with how effective these crisis intervention techniques are, and how routinely mental health professionals use them. It seems clear that the “command and control” philosophy underlying police recruit training, however appropriate generally, is both inappropriate and counterproductive when dealing with emotionally disturbed people.

Seventh, even mental health professionals acknowledge that there may be some extreme circumstances, however rare, when crisis intervention techniques will not be effective in de-escalating the crisis. In such cases, the ultimate goal must be to get initial medical treatment (*e.g.*, sedation) to the agitated subject. For that to happen,

it may be necessary to physically restrain the subject and, for that to happen, it may be necessary (depending on the factual circumstances) to deploy a conducted energy weapon. When that happens, best practices indicate that the weapon should be deployed for the shortest time possible, officers should immediately move in to restrain the subject, and medical first responders should initiate treatment immediately following restraint.

F. SUBJECTS WITH OTHER VULNERABILITIES

1. Young and/or physically small subjects

Although there is an understandable aversion to using a conducted energy weapon against a young person, I am not aware of any evidence indicating that young age by itself poses a higher medical risk.

Having said that, some of the animal studies discussed earlier show a correlation between skin-to-heart distance and risk of ventricular fibrillation—as the distance between the skin and heart decreases, the risk of ventricular fibrillation increases. It would not be unreasonable to infer from such data that when a conducted energy weapon is deployed across the chest of an unusually thin subject, there is an increased risk that the weapon’s electrical current may cause a heart arrhythmia, which could lead to ventricular tachycardia and/or ventricular fibrillation.

It is not unusual for some teens to be thinner than adults while their bodies are experiencing rapid growth. It is, therefore, reasonable to assume that they may be more vulnerable to these medical consequences, if subjected to conducted energy weapon deployment across their chest. However, based on the information before me, it is their thinness, not their youth, that makes them more vulnerable. Indeed, the “thinness” concern would logically apply regardless of age. It is my understanding that *commodio cortis* is exclusively seen in adolescent children (predominantly boys) who play baseball or hockey. It has been postulated that the thin chest wall and small

skin-to-heart distance typical of such children places them at particular risk for mechanical trauma on the T-wave, causing ventricular fibrillation.

2. Elderly subjects

The evidence indicates that elderly subjects are at greater risk if a conducted energy weapon is used against them. This increased risk arises from greater likelihood that elderly people will have underlying medical conditions, which make them more vulnerable. For example:

- Dr. Lu told me that elderly people have an increased susceptibility to delirium.
- Mr. Reilly told me that elderly people have a greater incidence of orthopedic (bone) frailties. Strong muscle contractions triggered by conducted energy weapon deployment could cause compression fractures, or falling due to muscle incapacitation could cause limb or hip fractures.
- Several cardiologists told me that people with cardiovascular disease are at a significantly higher risk of ventricular fibrillation.

3. Pregnant women

Several concerns have been expressed about deploying a conducted energy weapon against a pregnant woman. For example, deploying the weapon in probe mode across the woman's abdomen might trigger muscular spasms that could induce labour, or the electrical current from the barbs might reach the fetus and trigger an arrhythmia. While both scenarios appear plausible and several anecdotal accounts suggest a relationship,²²¹ I am not aware of any research substantiating those concerns.

A related concern arises from the fact that deployment of a conducted energy weapon in probe mode causes incapacitation and falling to the ground without the subject having the ability to break the fall. This could pose a particular risk for pregnant women.

²²¹ See Amnesty International, *'Less than lethal?' The Use of Stun Weapons in US Law Enforcement*, (2008), p. 91, available at <http://www.amnesty.org/en/library/asset/AMR51/010/2008/en/65fd4233-cb63-11dd-9ec2-e57da9519f8c/amr510102008en.pdf>.

G. RISKS ASSOCIATED WITH HOW THE WEAPON IS USED

1. External circumstances

It is not in dispute that deployment of a conducted energy weapon in several particular external circumstances will increase the risk of injury to the subject or to others nearby. Deployment in probe mode incapacitates the subject, so the following high-risk situations have been identified:

- *Heights*—when the subject is more than a few feet above the ground (*e.g.*, on a ladder or roof) and will, if incapacitated, fall to the ground.
- *Water*—when the subject is in a body of water that is deep enough so that, if the subject falls into it while incapacitated, the subject may drown.
- *Driving or operating machinery*—a subject driving a vehicle or operating machinery will lose control when incapacitated, which could cause injury to the subject or other people in the vicinity.

There is also a risk that the sparking of a conducted energy weapon could ignite flammable liquids or gases, such as gasoline, natural gas, or gases found in sewer lines or methamphetamine labs, or in self-defence sprays that use flammable carriers such as alcohol. Even some formulations of oleoresin capsicum (pepper) spray used by police officers are flammable.

2. Mode of deployment

a. Push-stun mode

When a conducted energy weapon is used in push-stun mode, the muzzle of the weapon is pressed against the subject's skin. When the trigger is pulled, an electrical current jumps between the two electrodes mounted on opposite sides of the muzzle, sending the current into the subject's skin. Because the electrodes are less than five centimetres apart, the current does not penetrate deeply enough into the subject's body to cause neuromuscular incapacitation.

Everyone agrees that the current is very painful, and often has the desired effect of persuading the subject to let go of a railing or otherwise achieving compliance through intense pain.

Because the weapon does not cause incapacitation when used in push-stun mode, there is little risk of fall-related injuries. However, the manufacturer trains to use caution when applying the weapon to the neck or groin area, because these areas are sensitive to mechanical injury, such as crushing the trachea or testicles if the weapon is applied forcefully.

b. Probe mode

As discussed earlier in this part, there are significantly greater medical risks when a conducted energy weapon is used in probe mode, including:

- ventricular tachycardia and/or ventricular fibrillation;
- myocardial infarction;
- rupture of a pre-existing aneurysm or heart wall;
- acute stroke;
- impairment of respiration, which could lead to acidosis; and
- rhabdomyolysis (muscle damage) that could lead to cardiac arrest or acute renal (kidney) failure.

In addition, several presenters cited examples of compressive fractures caused by severe muscle contractions, limb and hip fractures caused by falling, and injuries to internal organs (*e.g.*, lung and brain) or to eyes and genitals from probe penetration.

The *Canadian Medical Association Journal* recently reported a case²²² of a healthy police officer being accidentally hit by a conducted energy weapon deployed in probe mode—one barb in his upper back and the other in the occiput (back part of head). His colleague found him unresponsive and foaming at the mouth. His eyes were rolled upward and he had generalized tonic-clonic movement (*i.e.*, a generalized seizure affecting the entire brain) with apnea lasting for about one minute. He was confused

222 Bui, E.T., Sourkes M, and Wennberg, R., “Generalized Tonic-Clonic Seizure after a Taser Shot to the Head,” *CMAJ* March 17, 2008; 180(6).

and combative in the postictal period. On the Glasgow Coma Scale (three being the worst and 15 the best), he scored nine within five minutes, increasing to 13 five minutes later. He returned to work five days later, but experienced persistent headaches, dizziness, back pain, and chest tightness. He was diagnosed with mild traumatic brain injury (concussion), in addition to provoked seizure. A psychiatric consultation seven months after the injury suggested an Axis I diagnosis of adjustment disorder with depressed and anxious mood. The authors stated, “The taser current that passed to his brain from the dart in the occiput probably provoked the seizure directly, with a mechanism akin to that of seizures induced by electroconvulsive therapy.... It is plausible that a copper dart penetrating the scalp and discharging 95 pulses of 100 micro-coulombs each could trigger a generalized convulsion.”

3. Repetitive deployment

There are several ways in which a conducted energy weapon can be deployed repetitively:

- When used in push-stun mode, the weapon will discharge an electrical current for five seconds, and that cycle can be repeated with each subsequent pull of the trigger.
- When used in probe mode, the weapon will initially discharge an electrical current for five seconds, and that cycle can be repeated with each subsequent pull of the trigger.
- After a weapon has been deployed in probe mode, the cartridge can be removed, and the weapon can be used in push-stun mode.
- Two or more weapons can be deployed against the same subject simultaneously, in either push-stun or probe mode.

The Commission’s empirical study of conducted energy weapon use in British Columbia revealed that when used in push-stun mode, the subject was exposed to only one push-stun deployment in 55 percent of cases, and two such deployments in 26 percent of cases. The most push-stun deployments experienced by a subject was 14.

When used in probe mode, the weapon was deployed for one cycle in 64 percent of cases, and for two cycles in 22 percent of cases. The most probe mode cycles deployed against one subject was 10.

In approximately 7 percent of cases, a conducted energy weapon was deployed in both push-stun and probe mode, and the frequency of such dual deployments has more than doubled since 2000.

Logic would suggest that if a single discharge of a conducted energy weapon, especially in probe mode, creates a medical risk, then repetitive deployments against one subject would increase that risk. Dr. John Webster, a biomedical engineer, told me that animal studies have shown that repetitive deployments increase the risk of ventricular fibrillation, and these results satisfy him that “there’s no doubt that multiple tasing is more dangerous than single tasings.”²²³

With respect to respiration, it has been suggested that involuntary contraction of respiratory muscles, such as the diaphragm and intercostal muscles surrounding the rib cage, may impair respiration. In 2005, the BC Police Complaint Commissioner stated in his *TASER Technology Review—Final Report*.²²⁴

The effect that TASER application has on respiration remains an area of concern. Muscular tetany that impairs respiration may be an operative factor that has been previously unrecognized. This concern also relates to the issue of multiple usages.

There is also a concern that the combination of impaired respiration and muscular contraction can, in multiple deployments of the weapon, increase the risk of acidosis. The authors of the Canadian Police Research Centre’s 2005 *Review of Conducted Energy Devices* examined the evidence of respiratory impairment and pH changes resulting from multiple applications of conducted energy weapons, and concluded that:

²²³ Transcript, May 5, 2008, p. 78.

²²⁴ OPCC File No. 2474, June 14, 2005, p. 12.

Training protocols, however, should reflect that multiple applications, particularly continuous cycling of the TASER for periods exceeding 15-20 seconds, may increase the risk to the subject and should be avoided where practical.²²⁵

Until April 2008, the manufacturer acknowledged in its training materials an increased risk of impaired respiration from multiple deployments. For example, Version 12 (November 2004) and Version 13 (May 2006) of its training materials stated:

TASER applications directly across the chest may cause sufficient muscle contractions to impair normal breathing patterns. While this is not a significant concern for short (5 sec) exposure, it may be a more relevant concern for extended duration applications.

Also, in a June 2005 Training Bulletin, the manufacturer cautioned:²²⁶

Repeated, prolonged, and/or continuous exposure(s) to the TASER electrical discharge may cause strong muscle contractions that may impair breathing and respiration, particularly when the probes are placed across the chest or diaphragm. Users should avoid prolonged, extended, uninterrupted discharges or extensive multiple discharges whenever practicable in order to minimize the potential for over-exertion of the subject or potential impairment of full ability to breathe over a protracted time period.

However, the manufacturer's more recent publications reflect a significant change in position:

- Version 14 of its training materials state, "Tests show that there are no adverse effects on heart function or respiration deriving from multiple or prolonged deployments."
- An April 2008 Training Bulletin states:²²⁷

225 Technical Report TR-01-2006, p. 15.

226 TASER International, Inc., Training Bulletin 12.0-04, *TASER Law Enforcement Warnings*, Release date June 28, 2005.

227 TASER International, Inc., Training Bulletin 14.0-03, *TASER Law Enforcement Warnings*, Release date April 28, 2008. See <http://www.taser.com/training/Documents/Training%20Bulletin%2014-03.pdf>.

The available human data directly contradicts prior animal studies and does not reveal any evidence of breathing impairment or respiratory acidosis....

While prolonged muscle activity does produce lactic acid, human studies of ECD exposures up to 15 seconds (or 3 cycles) have shown that there is no evidence of metabolic acidosis.

In related reference sheets,²²⁸ the manufacturer cites recent studies, including several by Dr. Ho, in support of its new position. While it may be true that these studies on human volunteers have not produced evidence of impaired breathing or acidosis, they fall far short of satisfying me that multiple deployments of a conducted energy weapon do not have the *capacity* to increase these medical risks. Being satisfied that there are medical risks associated with the normal deployment of these weapons (as discussed earlier in this part), it would be imprudent of me to conclude, based on the human studies conducted to date, that those risks for some unexplained reason evaporate in the case of multiple deployments. To the contrary, prudence dictates that I should proceed on the assumption that multiple deployments increase at least some of the medical risks identified earlier in this part.

In a recent interview, Dr. Pierre Savard, one of the presenters at our policy hearings, described the results of his recent statistical analysis of 300 conducted energy weapon-related deaths reported by Amnesty International and 3,200 RCMP weapon deployments as compiled by CBC/Radio-Canada and Canadian Press. He stated: “What is really new here is the high level of relationship between the duration and the risk of death. It’s a linear relationship. The more you are exposed, if you double the exposure, you double the risk of death.”²²⁹

228 See <http://www.taser.com/training/Pages/TrainingResources.aspx>.

229 “Hit him again: Are two blasts from a Taser more dangerous than one? What about five?” CBC News (March 25, 2009). See http://www.cbc.ca/national/blog/special_feature/a_deadly_landing/the_taser_test_1.html.

H. THE IMPACT OF WEAPON USE ON INJURIES AND FATALITIES

1. Introduction

While much of the discussion in this part has focused on identifying the medical risks associated with use of conducted energy weapons, it is important to balance that discussion with an acknowledgment of the benefits accruing from their use.

Thomas Smith, the chairman of TASER International, Inc., told me that 350,000 officers in 12,750 agencies in more than 40 countries use their weapon, with nearly 550,000 actual field uses. In the vast majority of cases, the officer achieves compliance (through pain or incapacitation) with only minor injury or no injury at all to the subject.

The manufacturer goes further. Mr. Smith told me that use of conducted energy weapons reduces officer injuries, reduces subject injuries, reduces the incidence of resorting to lethal force, and reduces professional standards complaints alleging excessive force. For example, according to the manufacturer's data, officer injuries have dropped between 23 and 83 percent in eight American cities, while suspect injuries have dropped between 24 and 80 percent.²³⁰

2. The experience in British Columbia

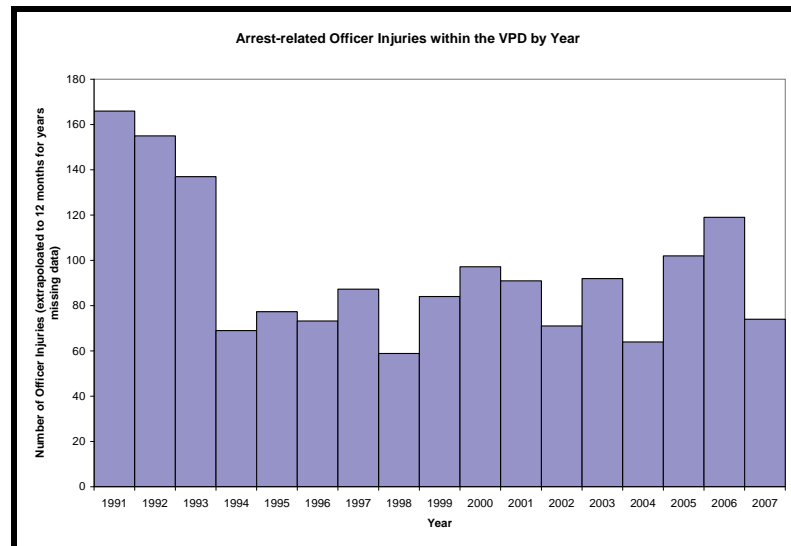
There is no data readily available in British Columbia applicable specifically to conducted energy weapons, and I am reluctant to extrapolate the American experience, as reported by the manufacturer, to the Canadian context.

230 The data provided by the manufacturer gives no indication of who conducted the studies that produced these results, or what methodology was followed. In addition, the data gives no indication of the experience in all other cities—have they experienced similar, better, or worse outcomes? Researchers at the University of Central Florida criticized these studies as deriving from “weak research designs that reduce confidence in the validity of the results.” See Adams, Kenneth and Victoria Jennison, “What We Do Not Know About Police Use of Tasers,” (2007) 30:3 *Policing: An International Journal of Police Strategies & Management*, 447 at 461.

Consequently, the Commission obtained data from the Vancouver Police Department and WorkSafe BC (formerly Workers Compensation Board) regarding work-related injury claims made by police officers, sheriffs and bailiffs, and correctional workers.

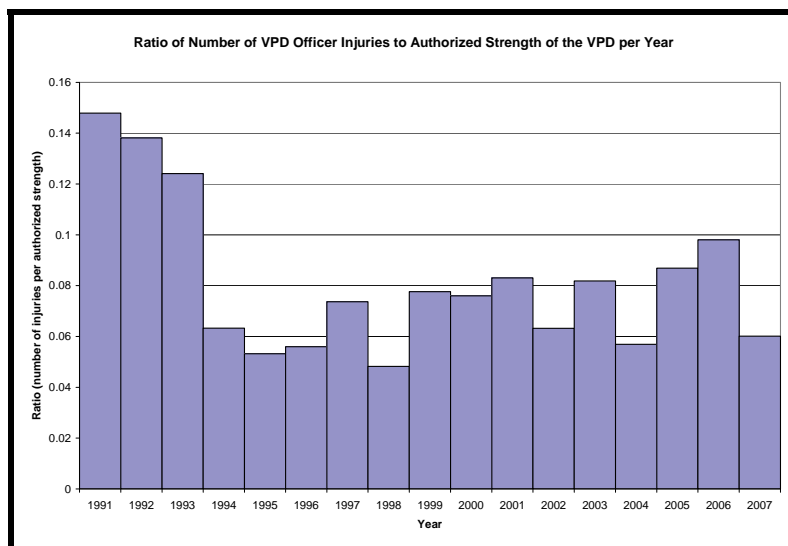
Commission researchers were able to extract arrest-related injuries from data supplied by the Vancouver Police Department, and then matched them to workers' compensation claims made by department employees. The analysis shows no significant difference in arrest-related injuries in the six years immediately preceding introduction of the weapon (in 2000) and in the eight years that the weapon has been used (see Graph 3).

Graph 3: Arrest-related officer injuries in Vancouver Police Department



The results did not change when increases in the authorized strength of the department during this period were taken into account (see Graph 4).

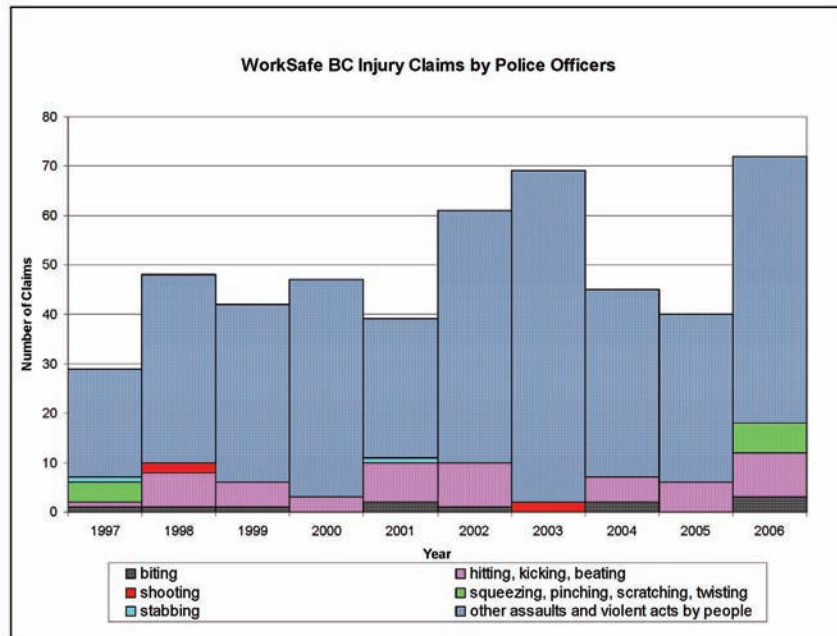
Graph 4: Ratio of number of VPD officer injuries to authorized strength



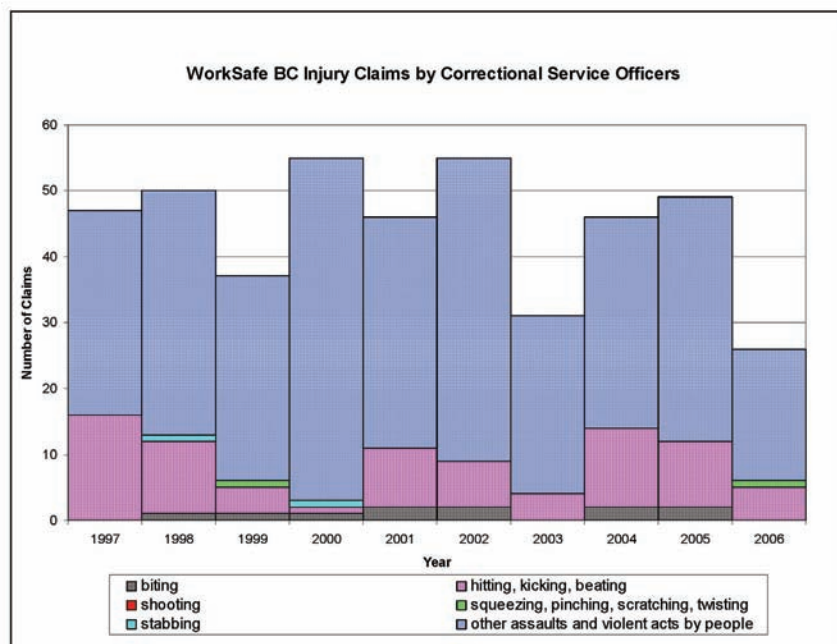
Commission researchers also examined WorkSafe BC tables listing the number of occupational injuries, sorted by occupation and by type of injury, for the years 1997 to 2006, which includes provincially regulated law enforcement agencies. They tallied this data, isolating those types of injuries that most likely captured confrontational situations with civilian suspects (*e.g.*, biting, kicking, stabbing).

In the case of police officers (Graph 5) and correctional service officers (Graph 6), there is no obvious consistent decline in arrest-related injuries since conducted energy weapons were introduced between 1998 and 2003. In the case of sheriffs and bailiffs (Graph 7) there has been a dramatic reduction in injuries beginning in 2003, two years after conducted energy weapons were introduced. However, I approach that data with caution, given the small number of claims.

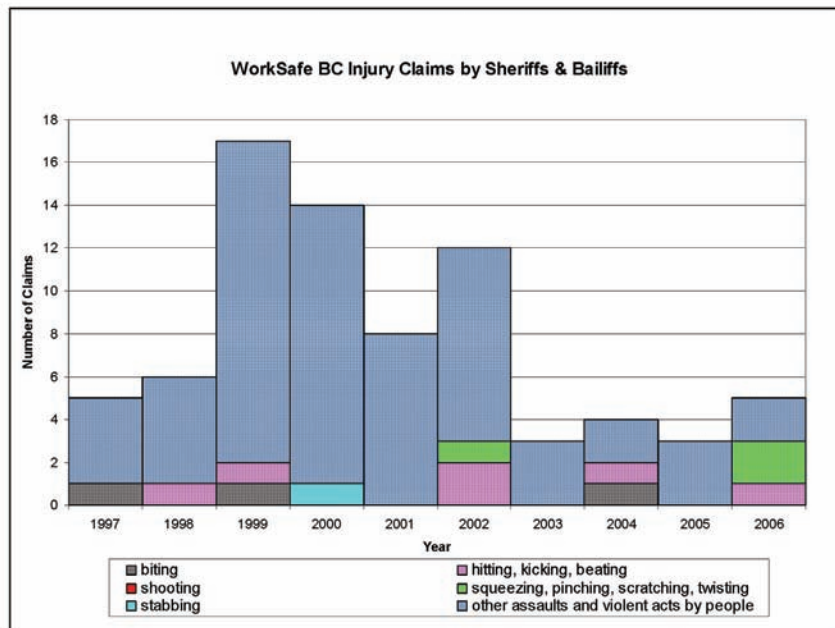
Graph 5: WorkSafe BC injury claims by police officers



Graph 6: WorkSafe BC injury claims by correctional service officers



Graph 7: WorkSafe BC injury claims by sheriffs and bailiffs



3. Canadian studies

The Canadian Police Research Centre is currently sponsoring a study comparing injury rates resulting from conducted energy weapon use with injury rates resulting from the application of other use-of-force techniques, such as batons and pepper spray. The study is scheduled for release in 2009, after peer review.

4. International studies

A British study found that officer and subject injury rates associated with deployment of the X26 conducted energy weapon were lower than injury rates for pepper spray and baton use (and, in the case of subject injuries, use of police dogs).²³¹ The authors acknowledged weaknesses in the data provided by the manufacturer. It was collected from law enforcement agencies on a voluntary basis using an incentive scheme, there

²³¹ Jenkinson, E., et al., "The Relative Risk of Police Use-of-Force Options: Evaluating the Potential for Deployment of Electronic Weaponry," (2006) 13 *Journal of Clinical Forensic Medicine* 229.

was no control mechanism ensuring that agencies provided complete records, and some police agencies prohibit the release of such data altogether.

Criminologists at the University of South Carolina examined data on 1,645 use-of-force incidents from the Miami-Dade Police Department in Florida and the Richland County Sheriff's Department in South Carolina, between 2002 and 2006. The results were mixed.²³² In the case of one agency, the use of conducted energy weapons was associated with reduced odds of officer and suspect injury, and reduced severity of suspect injury. In the other agency, conducted energy weapon use was unrelated to the odds of injury, although the use of pepper spray was associated with reduced odds of suspect injury. The researchers also found that in both agencies the use of hands-on tactics by police was associated with increased odds of officer and suspect injury, and the use of canines was associated with increased odds of suspect injury. They suggested that a variety of factors affect the number of injuries associated with conducted energy weapon use, including agency type, agency size, amount of training, placement of these weapons on the use-of-force continuum, and use-of-force policy language.

A study funded by the U.S. National Institute of Justice, completed in 2008, examined the incidence and severity of injuries associated with conducted energy weapon use.²³³ Described as the first prospective large-scale multicentre observational trial, researchers collected data on 1,201 conducted energy weapon incidents from six law enforcement agencies across the U.S.A. They categorized subject injuries as none, mild, moderate, and severe. The results are set out in Table 13.

232 Smith, M.R., et al., "The Impact of Conducted Energy Devices and Other Types of Force and Resistance on Officer and Suspect Injuries," (2007) 30 *Policing: An International Journal of Police Strategies & Management* 423. See <http://www.emeraldinsight.com/Insight/viewContentItem.do?jsessionid=AC1A5B39140D3CE95B105B699B9A294D?contentType=Article&contentId=1622104>.

233 Bozeman, William P., et al., "Safety and Injury Profile of Conducted Electrical Weapons Used by Law Enforcement Officers Against Criminal Suspects," to be published in *Annals of Emergency Medicine*; see <http://www.acep.org/pressroom.aspx?id=43742>.

Table 13: Severity of injuries associated with conducted energy weapon use

Severity of injury	Number	Percentage
No injury	938	78.1
Mild injury*	260	21.6
Moderate injury	2	0.2
Severe injury	1	0.1

*"Mild" injury was defined broadly to include puncture wounds, contusions, lacerations, other soft tissue injuries, fractures, a broken tooth, and an epistaxis (nosebleed).

Two of the three subjects who experienced moderate or severe injuries suffered head injuries sustained from falls, and the third involved a case of rhabdomyolysis. In addition, two subjects died within minutes of a second weapon discharge. They both had struggled violently with the police before and after conducted energy weapon use, and physical force was used to take them into custody. According to medical examiners, weapon use was not determined to be causal or contributory to either death. The researchers concluded, in part:

Although this study of 1,201 consecutive conducted electrical weapon uses with subsequent medical screening does not document any cases with an immediate fatal collapse suggesting conducted electrical weapon-induced dysrhythmia, the possibility is not excluded.

With respect to the two subjects who collapsed and died soon after a second weapon discharge (five and 20 minutes respectively), both were agitated, one had a history of mental illness with a high level of an antipsychotic drug in his blood while the other had cocaine in his blood, both struggled extensively with officers, and one was restrained in the prone position. They are both instances of "death proximate to conducted energy weapon use." Regardless of whether the weapon's electrical current can be shown to have caused or contributed to the deaths, they reflect a commonly recurring pattern of subject behaviour and officer response leading to unexpected death.

This study did not purport to address the issue of whether the use of conducted energy weapons reduces injuries to officers and subjects. Another study funded by the National Institute of Justice, and currently underway, goes this next step, by

investigating the relationship between various police use-of-force techniques and their outcomes.²³⁴ It includes an analysis of injuries, before and after adoption of conducted energy weapons, from police departments in Orlando, Florida, and Austin, Texas. Although the full study has not yet been published, a summary presented to the National Institute of Justice in July 2008 included the statement that “the use of TASERS significantly reduced injuries to officers and citizens.”²³⁵

5. Deaths

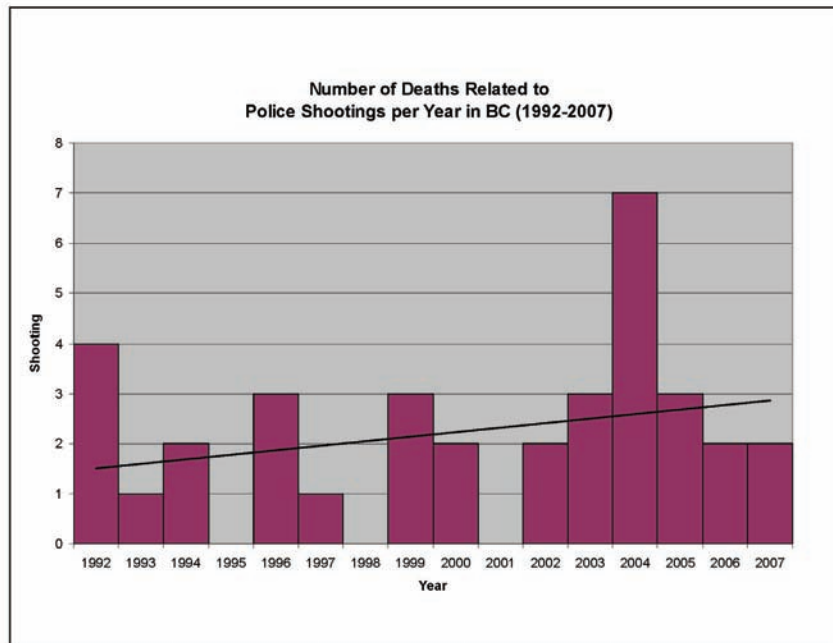
Advocates of conducted energy weapons contend that in some circumstances the weapon can be used as an alternative to a firearm, thereby saving lives. During the public forums I heard many anecdotal accounts of real-life situations in which a conducted energy weapon was successfully deployed against a subject armed with a weapon. In many of these accounts, the implication was that if a conducted energy weapon had not been used, a firearm would have been, with deadly consequences. I approach this line of reasoning cautiously, because it is speculative—we do not know whether other use-of-force techniques would have been effective, or whether the factual circumstances may have suddenly changed.

If the advent of conducted energy weapons has resulted in fewer subjects being shot by police officers, one would expect that change to be reflected in police-shooting data. Commission researchers examined statistics compiled by the BC Coroners Service showing the number of police-shooting deaths in BC between 1992 and 2007 (see Graph 8). This data shows a modest increase, not a decline, since the introduction of conducted energy weapons, and the results do not change when population increases are taken into account (see Graph 9). Given the small numbers involved, it would be unwise to generalize from this limited data.

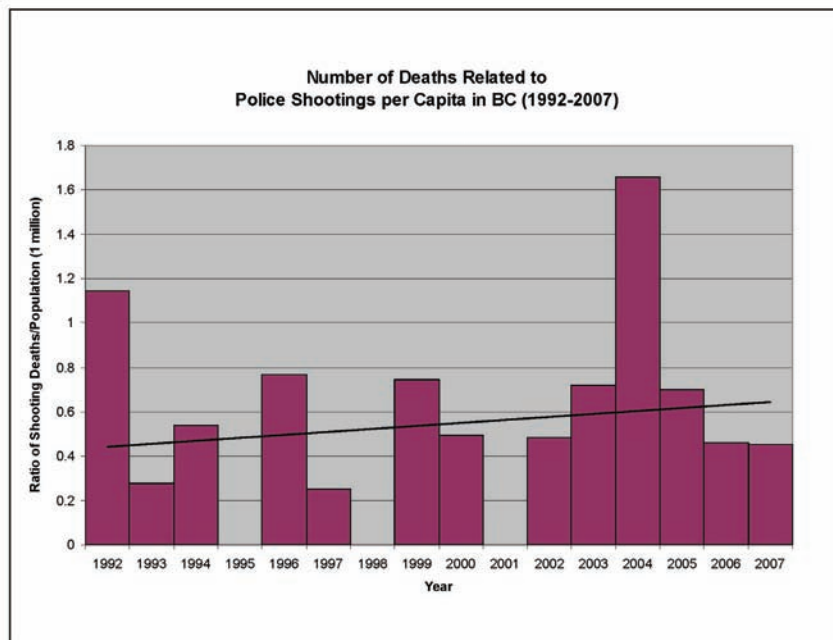
234 Smith, M.R., et al., “A Multi-Method Evaluation of Police Use of Force Outcomes,” July 2008 [not yet published].

235 *Ibid.*, slide 13.

Graph 8: Number of police-shooting deaths in British Columbia



Graph 9: Number of police-shooting deaths in British Columbia, per capita



It is noteworthy that a recent analysis of RCMP data led the Commission for Public Complaints Against the RCMP to conclude: “The nature of the circumstances that gave rise to CEW usage reports generally does not support the members’ claims that CEW use assisted in avoiding lethal force in more than half of all CEW incidents in 2008.”²³⁶

A recent American study²³⁷ collected data by survey from police and sheriff’s departments about unexpected in-custody deaths during non-lethal force situations in 50 moderate-sized California cities. It tabulated the number of deaths per 100,000 arrests during the five years preceding deployment of conducted energy weapons, during the year of deployment, and during the five years after deployment. The analysis took into account fluctuations in the number of arrests from year to year. A similar analysis was done of lethal force (officer firearm-related) deaths. The results are summarized in Table 14.

Table 14: In-custody deaths per 100,000 arrests, before and after deployment of conducted energy weapons

Deployment years of conducted energy weapons	In-custody deaths per 100,000 arrests	Lethal force deaths per 100,000 arrests
1-5 years before deployment	0.93	6.6
Year of deployment	0.61	14.1
First full year after deployment	5.96	15.1
2-5 years after deployment	1.44	9.1

The analysis showed a statistically significant increase in deaths in the first full year after deployment (and in the year of deployment, in lethal force deaths). Death rates then decreased to pre-deployment levels after the first full year of deployment, which the researchers explained as follows:

We speculate that early liberal use of Tasers may have contributed to these findings, possibly escalating some confrontations to the point that firearms were necessary. The later decrease in sudden deaths and [lethal force deaths]

²³⁶ *RCMP Use of the Conducted Energy Weapon (CEW): January 1, 2008*, Special Report dated March 31, 2009, p. 31, available at <http://www.cpc-cpp.gc.ca/prr/rep/sir/cew-ai-09-eng.aspx#sum>.

²³⁷ Lee, Byron K., et al., “Relation of Taser (Electrical Stun Gun) Deployment to Increase in In-Custody Sudden Deaths,” (2009) 103:6 *Am. J. Cardio.* 877.

may reflect recognition of the adverse consequences of Taser application by law enforcement agencies, leading to an adjustment of usage and/or techniques to result in the observed decrease in the 2 events to pre-deployment levels.

I find this study valuable for several reasons. First, it is the kind of large-scale analysis that is needed if we are to make progress in quantifying the risks associated with the use of conducted energy weapons. Second, it reveals that the incidence of in-custody deaths did not drop following introduction of conducted energy weapons in these 50 communities. Third, the incidence of in-custody deaths is approximately one in 100,000 arrests, a ratio that must be borne in mind when balancing the benefits and risks in deploying these weapons.

The U.S. National Institute of Justice is currently conducting a study to address whether conducted energy weapons can contribute to or cause mortality and, if so, in what ways. A medical panel is conducting an undisclosed number of mortality reviews of conducted energy weapon-related deaths, and is reviewing the current state of medical research relative to the effects of such weapons. In its June 2008 *Interim Report*,²³⁸ the medical panel's consensus view included the following findings:

- Although the exposure to conducted energy weapons is not risk free, there is no conclusive medical evidence within the state of current research that indicates a high risk of serious injury or death from the direct effects of weapon exposure.
- There is no medical evidence that weapons pose a significant risk for induced cardiac dysrhythmia when deployed reasonably, or that exposure produces sufficient metabolic or physiological effects to produce abnormal cardiac rhythms in normal, healthy adults. However, thin stature and dart placement in the chest may lower the safety margin for cardiac dysrhythmia.
- All aspects of an altercation constitute stress that may represent a heightened risk in individuals who have pre-existing cardiac or other significant disease.
- "Excited delirium" that requires restraint carries with it a high risk of death, regardless of the method of restraint. Current human research suggests that the use of a conducted energy weapon is not a life-threatening stressor in

238 National Institute of Justice Special Report, *Study of Deaths Following Electro Muscular Disruption: Interim Report*, available at <http://www.ncjrs.gov/pdffiles1/nij/222981.pdf>.

cases of “excited delirium” beyond the generalized stress of the underlying condition or appropriate mode of restraint.

- The purported safety margins of weapon deployment on normal, healthy adults may not be applicable in small children, those with diseased hearts, elderly people, those who are pregnant, and other at-risk individuals. The effects of weapon exposure in these populations are not clearly understood, and deployment against these populations should be avoided but may be necessary if the situation excludes other reasonable options.
- The medical risks of repeated or continuous weapon exposure are unknown and the role of such weapons in causing death is unclear in such cases. Caution is urged in using multiple activations of the weapon as a means of subduing a subject.
- Exposure is safe in the vast majority of cases, so law enforcement need not refrain from deploying weapons, provided they are used in accordance with accepted national standards. The decision whether or not to deploy a conducted energy weapon is best left to the tactical judgment of trained law enforcement at the scene.

6. Observations

I am reluctant to draw firm conclusions from the data and studies cited above. It is notoriously difficult to isolate a particular weapon’s impact on injuries and deaths, when so many variables are at play. Further, no one knows how a police intervention would have turned out, had a conducted energy weapon not been available.²³⁹ As Vancouver Police Department Deputy Chief Constable Bob Rich so aptly put it, the police don’t have a “fixed control environment.”²⁴⁰

Having said that, it would not be surprising if injuries to police officers are reduced when a conducted energy weapon is used in place of another use-of-force weapon or technique. Experience suggests that, by deploying conducted energy weapons, officers can frequently avoid (or at least minimize) physical altercations with subjects.

What is not so clear is whether injuries to subjects are reduced and, if so, to what extent. In many cases, a conducted energy weapon causes less injury than would a baton or a police dog, but that benefit must be balanced against the risk (however

²³⁹ Transcript, May 14, 2008, p. 45.

²⁴⁰ Transcript, May 14, 2008, p. 46.

small) of death or serious injury from everything from a fall to ventricular fibrillation. This calls for a risk-benefit analysis, which I will discuss in the next part.

Part 10

Recommendations

PART 10: RECOMMENDATIONS

PART 10: RECOMMENDATIONS

A.	INTRODUCTION	289
B.	GUIDING PRINCIPLES.....	289
1.	The police are subject to civilian authority	289
2.	The police must be given appropriate tools to do their job	290
3.	The police should use the least force necessary, to manage the risk.....	290
4.	The use of force must be proportionate to the seriousness of the situation ..	291
C.	DO WE HAVE ENOUGH INFORMATION ABOUT CONDUCTED ENERGY WEAPONS?.....	291
D.	SHOULD BC ALLOW USE OF CONDUCTED ENERGY WEAPONS?	293
E.	THRESHOLDS FOR USE	294
1.	Seriousness of the matter	294
2.	The subject's behaviour	297
a.	<i>General rule</i>	297
b.	<i>Subject self-harm</i>	311
F.	MULTIPLE DEPLOYMENTS	311
G.	OTHER PRECAUTIONARY MEASURES	314
1.	Requesting paramedic assistance	314
2.	Automated external defibrillators	315
3.	Distinguishing between push-stun and probe mode deployments	316
4.	Which officers should be assigned conducted energy weapons?	316
H.	PROVINCIAL REGULATION.....	318
I.	TRAINING AND RE-TRAINING.....	319
J.	CERTIFICATION AND TESTING OF CONDUCTED ENERGY WEAPONS	321
1.	Certification.....	321
2.	Periodic testing	323
3.	Testing after a serious injury or death.....	324

PART 10: RECOMMENDATIONS

K.	REPORTING ON CONDUCTED ENERGY WEAPON USE	325
L.	THE NEED FOR FURTHER RESEARCH.....	329
M.	FUTURE REVIEW	332

A. INTRODUCTION

The Terms of Reference established by the provincial government to guide this Commission's work (set out in Appendix A) direct me to make recommendations respecting the appropriate use of conducted energy weapons by police officers, sheriffs, and correctional officers, and respecting appropriate training and re-training of such persons. I will address these issues in this part.

B. GUIDING PRINCIPLES

In the preceding parts I have summarized the voluminous materials that the Commission has accumulated relating to use of conducted energy weapons, including oral presentations by experts in a wide range of fields; the legal, regulatory, and policy framework within which these weapons are used; recruit and officer training; British Columbia's experience with use of these weapons; and the complex medical issues surrounding their use.

Before formulating my recommendations, I will set out several guiding principles that informed my analysis. I do so because I believe it is important that I, and those who act on my Report, bring a principled approach to these important issues. It is not an overstatement to say that people's lives depend on when and how conducted energy weapons are deployed. The public deserves to know not only what the rules are, but on what basis they were arrived at.

1. The police are subject to civilian authority

In Part 4, I quoted an excerpt from then-Justice Wally Oppal's 1994 *Policing in British Columbia* report, which bears repeating:

Thus in a system of responsible government, the police are ultimately accountable to civilian authority. This fundamental tenet of a liberal democracy distinguishes Canada from totalitarian or dictatorial states in which

the police are either accountable only to the executive branch or, in extreme cases, to no other authority at all.

While police officers have a legal duty to carry out their tasks in accordance with standards set by the legislative and executive branches of government, there is an equally onerous duty on civilian authority to set such standards in the first instance. Ignoring this responsibility, or delegating it to the police, would be an abdication of a fundamental element of our liberal democratic system.

2. The police must be given appropriate tools to do their job

In my 50-year career as a lawyer and judge, I have seen a profound change in our society. With the proliferation of guns, drugs, and organized crime, a police officer's job has become far more demanding and much more dangerous. Those who answered the call to fight crime now find themselves spending more and more of their time mediating domestic disputes and dealing with people overwrought from serious addictions and mental illness.

We expect a lot of our police officers, and it is only reasonable that we should give them the best tools available to do their job. These "tools" include, but are certainly not limited to, weapons. Officers need the best training available, which these days must include learning how to respond appropriately to people who are emotionally disturbed or intoxicated by alcohol or drugs, or both.

3. The police should use the least force necessary, to manage the risk

The corollary is, of course, equally true. Because we give police officers extraordinary powers of search, arrest, and use of lethal force, we are entitled to expect that they will use these powers prudently and with restraint. The *Criminal Code* sets a time-honoured (albeit general) standard that allows an officer to use reasonable force, but punishes excessive force.

4. The use of force must be proportionate to the seriousness of the situation

Our society has, over the centuries, developed sophisticated systems of proportionality. For example, in sentencing offenders we say, “Let the punishment fit the crime.” The same notion of proportionality should hold true for a police officer’s use of force—it should be proportionate to the seriousness of the situation. Deciding what is proportionate has a subjective component, grounded in our society’s values, including fairness, personal safety, and respect for the individual.

C. DO WE HAVE ENOUGH INFORMATION ABOUT CONDUCTED ENERGY WEAPONS?

Notwithstanding the voluminous materials that this Commission has reviewed, including a constant stream of new medical studies, several presenters told me that in their view I should proceed cautiously. For example, the executive director of the BC Civil Liberties Association said, “Given the scientific uncertainty that exists today, and consistent with a cautionary approach, we actually have urged a moratorium on the use of these weapons.”²⁴¹

To the same effect, Hilary Homes of Amnesty International said:

Amnesty’s main recommendation continues to be to suspend all transfers and use of TASERS and other similar electroshock weapons pending a rigorous, independent and impartial study into the use and effects....

Why this continues to be our position after all these years comes back to the ongoing lack of knowledge around the use and effects of conducted energy devices such as TASERS on vulnerable groups. Central to human rights protection is looking out for the vulnerable in society without discrimination, whether we like them or not and even if they themselves are breaking the rules. When the available information is not definitive either way, we say it’s

²⁴¹ Transcript, May 23, 2008, p. 34.

better to pull the device from use. Study, re-evaluate, adapt, and then redeploy.²⁴²

Dr. Chambers, a Vancouver physician and epidemiologist who reviewed the medical literature at my request, stated during his presentation:²⁴³

But at the end of the day we have animal studies and volunteer studies that don't represent the real world and don't measure the magnitude of the harms or benefits.

We've talked about the relatively small sample sizes relative to the low event rates; the fact that there's no meta-analysis, no systematic abuse, no controlled trials on a population for which TASER use has been designed. There are anecdotal reports and police data have pointed to benefits. However, there's no standardized database or validated and published studies that accurately measure benefits that I could identify based on the current use....

So where are we right now? In my mind we have no idea of the relative risk of death in a large population due to TASER use. A significant risk could be being missed due to a lack of study in the real world. We really have no handle on what other injuries associated with TASER use might also be important—standing fractures, falling fractures, spinal cord injury, brain injury—as these are not being routinely followed in a systematic way.

When this Commission began, I had reservations about our current state of knowledge. However, I have learned a great deal from experts who made presentations during our public forums, and from our Commission's survey of the medical and scientific literature. At the same time, I agree with Dr. Chambers' assessment of the inadequacy of medical studies to date and, later in this part, I will discuss in more detail the need for further research. Notwithstanding the shortcomings identified by Dr. Chambers and others, I am satisfied that our understanding of conducted energy weapons, about some subjects' medical vulnerabilities, and about police best practices when dealing with emotionally disturbed people is growing year by year.

Do we as a society now know enough about these matters to make important decisions relating to the use of conducted energy weapons? In my judgement we do, although I

²⁴² Transcript, May 15, 2008, pp. 27-28.

²⁴³ Transcript, May 23, 2008, p. 22.

would qualify that statement by saying that we should proceed with caution, as critical research is still missing.

There is, of course, much more to learn. That will take time, but I do not think that it would serve the public interest to postpone making fundamental decisions about the use of conducted energy weapons until we know more. We now know enough in order to proceed.

D. SHOULD BC ALLOW USE OF CONDUCTED ENERGY WEAPONS?

The threshold question which I must address is whether British Columbia should allow police officers and other law enforcement agencies to use conducted energy weapons?

Those opposed cite the more than 300 deaths in the United States, and at least 25 in Canada, that were “proximate to TASER use,” and argue that the weapon must be implicated to some degree in those deaths. Those in favour point to the weapon’s effectiveness in incapacitating violent subjects, and the hundreds of thousands of deployments which did not result in death or lasting injury.

Answering the posed question calls for an exercise in judgement, after reviewing the evidence that exists and weighing the risks and benefits. As I stated in Part 9, I am satisfied that conducted energy weapons do have the capacity (even in healthy adult subjects) to cause heart arrhythmia, which can lead to ventricular tachycardia and/or fibrillation which, if not treated immediately, can cause death, and that risk increases in certain circumstances, such as when the subject has certain pre-existing medical conditions or is in a fragile emotional state. However, it is equally clear that there are ways to ameliorate those risks, which I will discuss in more detail later in this part.

At the same time, there can be no doubt that in the great majority of deployments, the conducted energy weapon is effective. In many cases, merely displaying the weapon achieves compliance. At the other end of the spectrum, use of this weapon in lethal force situations may well have saved lives, although I recognize the difficulty in quantifying that benefit.

Conducted energy weapons have been a part of the police arsenal in British Columbia for almost a decade. While there may be much to argue about when it comes to *how* the weapon has been deployed in some factual circumstances, I am satisfied that, on balance, our society is better off with these weapons in use, than without them.

However, my support for their use is conditional. As I will discuss in more detail later in this part, the medical risks associated with the use of conducted energy weapons necessitate significant changes in when, and the way in which, they are deployed. If my recommendations on these matters are implemented, then I am confident that the public will be well served by including conducted energy weapons in the arsenal of our law enforcement agencies. If they are not, then I cannot support their use.

E. THRESHOLDS FOR USE

1. Seriousness of the matter

Are there some circumstances in which use of a conducted energy weapon should *never* be allowed? During our public forums, several presenters cited examples in support of this proposition:

- Deputy Chief Allen of the Transit Authority Police told me that its policy would not justify use of a conducted energy weapon against a fare evader; and
- Interim Chief Naughton of the Victoria Police Department said that he would be horrified if an officer used a conducted energy weapon on a jaywalker who was walking away from an officer.

To the contrary, the conducted energy weapon coordinator for the Vancouver Police Department told me that it does not matter whether an officer is arresting a subject for a *Liquor Act* violation, for shoplifting, for bank robbery, or for murder—“Our purpose for using it would be based on the behaviour of our subject, for whatever reason we are apprehending them or arresting them,” regardless of the underlying offence.²⁴⁴

244 Transcript, May 8, 2008, p. 51.

These statements suggest that even within the policing community there are widely divergent views on whether there are some circumstances in which use of a conducted energy weapon should *never* be allowed. I suspect that these varying views find their way into recruit training and into how the weapon is actually deployed on our streets, leading to inconsistent application among municipal police forces and other law enforcement agencies.

Resolving this issue requires a consideration of proportionality. On the one hand, we expect police officers to enforce the law, which includes everything from municipal bylaws to indictable offences under the *Criminal Code*. What is an officer to do, if a person found committing even a minor offence refuses to identify himself or herself? In such circumstances, the officer may be justified in detaining or arresting the person in order to confirm their identity. If the person tries to run away, is the officer justified in deploying a conducted energy weapon, given that running away falls within the definition of active resistance?

On the other hand, I am satisfied from the evidence before me that conducted energy weapons cause intense pain, incapacitate the subject, and have the capacity to cause the subject's death. Surely there must be some "subject matter" threshold, below which use of a conducted energy weapon cannot be justified. In terms of a subject's behaviours, both the National Use of Force Framework and the RCMP's Incident Management/Intervention Model set that threshold at "active resistance." However, both are silent on other important parameters, such as the seriousness of the matter. In my view, this is an important gap that must be filled.

In the same way that "the punishment must fit the crime," a police officer's use of force must be commensurate with the seriousness of the matter at issue. When a police chief is horrified at the thought of a jaywalker having a conducted energy weapon deployed against them, or the public is outraged at the allegation of similar treatment to transit fare evaders, these are valuable barometers of our society's commitment to proportionality.

In my view, proportionality requires that a “subject matter” threshold be established, before use of a conducted energy weapon is justified. This is uncharted territory—as far as I know, no Canadian jurisdiction has addressed this issue.

In British Columbia, three levels of government enact laws that impose obligations on citizens. Municipalities pass bylaws, the provincial legislature enacts provincial statutes that are principally regulatory in nature, and the federal parliament enacts federal legislation that is either regulatory or creates crimes, which may be less serious (summary conviction) or more serious (indictable).

Given that the intended purpose of a conducted energy weapon is to inflict intense pain and cause incapacitation, and given its capacity to cause injury or death, I am satisfied that proportionality requires that a fairly high “subject matter” threshold be set. I would preclude deployment of a conducted energy weapon during enforcement of municipal bylaws, provincial laws, and federal regulatory laws, and restrict its use to truly criminal offences.

This will not unduly hamper the ability of police officers to do their job:

- Even if an officer is investigating a matter that falls below my proposed threshold, the subject’s response to the officer (*e.g.*, resisting the officer’s attempts to arrest the subject in order to establish the subject’s identity) may itself constitute a criminal offence (*e.g.*, assault, assault of a peace officer, or resisting or willfully obstructing a peace officer in the execution of his or her duty) that places the situation above my proposed threshold.
- An officer will still have recourse to all investigative measures and force options that were available before the advent of conducted energy weapons.

I am also satisfied that a similar “criminal offence” threshold should apply to sheriffs and correctional officers. The Commission’s empirical analysis of these agencies’ use of conducted energy weapons reveals that deployment occurs most frequently during a prisoner’s extraction from or placement into a cell, during a cell or prisoner search, or during a prisoner transfer. Applying the proportionality principle to these situations, I do not think that use of this weapon is justified if the subject’s only action is yelling or verbally abusive language. In my view, the same “criminal offence” threshold should apply to these officers as well.

Recommendation 1

I recommend that officers of provincially regulated law enforcement agencies be authorized to deploy a conducted energy weapon only in relation to enforcement of a federal criminal law.

2. The subject's behaviour

a. General rule

What threshold of subject behaviour should be required before an officer is justified in deploying a conducted energy weapon? At present, this weapon is classified in British Columbia as an intermediate weapon, and consequently the National Use of Force Framework permits use in the face of “active resistance.” Most provincially regulated law enforcement agencies adopt this subject behaviour threshold.

With respect to the RCMP, its policy includes the conducted energy weapon as an intermediate weapon which, according to the Incident Management/Intervention Model, authorizes use in the face of “active resistance.” However, its February 2009 policy amendment adds a further requirement that the subject's behaviour also poses “a threat to officer or public safety.”

Although the term “active resistance” implies some form of active engagement with or against the officer, the definitions capture a broader range of conduct that belies any form of “resistance,” let alone “active” resistance. They state:

The National Use of Force Framework

Active Resistance—the subject uses non-assaultive physical action to resist, or while resisting an officer's lawful direction. Examples would include pulling away to prevent or escape control, or overt movements such as walking toward, or away from an officer. Running away is another example of active resistance.²⁴⁵

RCMP's Incident Management/Intervention Model

Active Resistance—the person demonstrates resistance to control by the police officer through behaviours such as pulling away, pushing away or running away. This can include a situation where a police officer activates a police vehicle's

245 *Ibid.*, see footnote 58, p. 7.

emergency equipment and the suspect fails to stop and attempts to evade apprehension by driving evasively.²⁴⁶

Under both these formulations, the focus is on the officer attempting to exercise control or direction over the subject, and on the subject walking toward the officer or pulling away, pushing away, or running away from the officer.

Police officers who made presentations during our public forums uniformly spoke in favour of retaining this subject behaviour threshold. However, in 2008 several public agencies published reports recommending that the threshold be raised from “active resistance” to “assaultive.” They include:

- Commission for Public Complaints Against the RCMP;
- House of Commons Standing Committee on Public Safety and National Security;
- Nova Scotia Advisory Panel to the Minister of Justice;
- Compliance Strategy Group (Kiedrowski Report) to the RCMP; and
- Saskatchewan Ombudsman.²⁴⁷

Both use-of-force frameworks include this “assaultive” level of subject behaviours, which is higher than “active resistance,” but lower than “grievous bodily harm or death” (which justifies the use of lethal force). They state:

National Use of Force Framework

Assaultive—the subject attempts to apply, or applies force to any person; attempts or threatens by an act or gesture, to apply force to another person, if he/she has, or causes that other person to believe upon reasonable grounds that he/she has, present ability to effect his/her purpose. Examples include kicking and punching, but may also include aggressive body language that signals an intent to assault.²⁴⁸

RCMP’s Incident Management/Intervention Model

Assaultive—the person attempts or threatens to apply force to anyone, *e.g.*, punching, kicking, clenching fists with intent to hurt or resists, threats of an

²⁴⁶ *Ibid.*, see footnote 63.

²⁴⁷ See Part 8 for summaries of these and several other reports.

²⁴⁸ *Ibid.*, see footnote 58, pp. 7-8.

assault. In the case of a person operating a vehicle, they attempt to collide with the police vehicle, another vehicle or a pedestrian.²⁴⁹

In my view, several matters must be considered before deciding what threshold of subject behaviour to recommend—the medical risks as we currently understand them, and proportionality, which necessitates a discussion of Canadian values.

i. Medical risks

I reviewed the medical evidence in Part 9. It may be useful to summarize here the main conclusions that I drew from that review:

- An external electrical current can overtake the human body’s internal electrical system, resulting in ventricular capture, which may lead to ventricular tachycardia and, in some cases, ventricular fibrillation.
- There is evidence that the electrical current from a conducted energy weapon is capable of triggering ventricular capture.
- Although the results from animal studies should be approached with caution, it is safe to draw several conclusions from these studies that can be extrapolated to humans:
 - The greatest risk of ventricular fibrillation arises when the weapon’s probes are vectored across the heart; and
 - The risk of ventricular fibrillation increases as the tips of the probes get closer to the wall of the heart.
- There is a short “window” during the heart’s normal beat cycle (the T-wave) when the heart is most vulnerable to an external electrical shock. During this period, current pulses 25 or more times lower than at other times in the heart cycle may induce fibrillation.
- There are some circumstances in which the risk of ventricular fibrillation may increase, including:
 - *Heart disease*—people with cardiovascular disease are at a significantly higher risk of ventricular fibrillation, for several reasons—diseased hearts are much more vulnerable to arrhythmias, scar tissue interrupts the normal flow of electrical currents around the heart, and the shock and intense pain that a subject experiences may cause the heart to beat faster and more forcefully, placing greater strain on the heart wall, which is dangerous for people with

²⁴⁹ *Ibid.*, see footnote 63.

chronic high blood pressure or for people suffering from congestive heart failure.

- *Thin subjects*—people with an unusually thin chest skin-to-heart distance are at greater risk for ventricular fibrillation.
- *Subject's response*—even in healthy subjects, the pain, anxiety, and stress associated with conducted energy weapon use will stimulate the heart through an outpouring of the sympathetic nervous system and an outpouring of adrenaline. The heart beats faster, blood pressure increases, and the electrical properties of heart muscle cells are altered, making the heart more prone to developing dangerous arrhythmias.
- The intense muscle contractions resulting from the weapon's electrical current can lead to ventricular fibrillation due to two mechanisms:
 - The contractions may result in the buildup of lactic acid and carbon dioxide in the blood. This lowers the blood pH, thereby increasing acidity, which may lead to acidosis. This affects the electrolyte balance, especially potassium, and the electrical triggering of the heart, making the heart more susceptible to ventricular fibrillation.
 - The contractions can cause muscle damage (rhabdomyolysis), contributing to an increase in potassium levels that may electrically imbalance the heart.

Although ventricular fibrillation is the greatest concern, there are other medical risks associated with use of a conducted energy weapon, including:

- *Ventricular tachycardia*—electrical current can overtake the human body's internal electrical system, resulting in ventricular capture which may lead to ventricular tachycardia and which may also lead to ventricular fibrillation. This can happen at almost any part of the heartbeat cycle and, in the case of prolonged weapon discharge, can capture the heart for the duration of the discharge.
- *Myocardial infarction (heart attack)*—there is evidence that electrical current can cause coronary artery spasm, leading to myocardial infarction. Alternatively, stress and anxiety resulting from the weapon's discharge will inevitably increase the heart rate and result in a greater oxygen demand. Subjects with pre-existing coronary artery disease have a significantly reduced capacity to supply the heart muscle with oxygen-rich blood, which may lead to ischemia or, in severe cases, myocardial infarction.
- *Implanted pacemakers and defibrillators*—these devices deliver their electrical currents directly into the heart by way of metal leads running from

the devices into the heart muscles. Researchers have raised several concerns:

- The wires may conduct the current from the conducted energy weapon directly into the heart, in which case much less current would be required to trigger an arrhythmia.
- The weapon's current might override the device's current.
- The device might interpret the weapon's current as ventricular fibrillation, causing the defibrillator to emit an electrical current inappropriately.
- The weapon's current might damage the implanted device.
- *Blood pressure*—an increase in a subject's heart rate, leading to increased blood pressure, could cause an acute stroke, rupture a pre-existing aneurysm (an abnormal ballooning of the wall of an artery), or rupture the heart wall where coronary heart disease has created scar tissue.
- *Respiratory risks*—discharge of the weapon's probes into the upper torso (especially multiple deployments) could impair the subject's ability to breathe, due to the electrical current's induction of spasm into the intercostal muscles around the rib cage and the thoracic diaphragm. This could lead to acidosis, or to acute respiratory failure, which is immediately life-threatening.
- *Metabolic risks*—rhabdomyolysis (muscle damage that can be brought on by direct electrical damage to muscles) can lead to the release of muscle breakdown products into the bloodstream. If released at levels higher than the kidneys can clear, they can cause acute renal (kidney) failure.

When we examine the risk of ventricular fibrillation, the risks associated with implanted pacemakers or defibrillators, and the risk of respiratory failure, it appears to me that the single most important factor in creating the medical risk, or in exacerbating it, is deployment of the conducted energy weapon in probe mode, with the probes across the chest vectoring the heart. It is the combination of deployment in probe mode (where there is deeper penetration of the device's electrical current into the subject's body because of the greater spread between the probes and the imbedding of the probes up to 9 mm into the chest wall) and positioning of the probes (near the heart wall, intercostal muscles, or diaphragm) that are largely responsible for creating the risks of interference with the heart's normal rhythms or of interference with breathing.

If it were practical to do so, I would recommend severe restrictions on the probe mode deployment of a conducted energy weapon in a subject's chest area because of the medical risks that have been identified, many of which would not be apparent to the officer on the scene. However, I have concluded that such a restriction would not be workable, for the following reason. Officers are already taught (properly, in my view) not to aim a conducted energy weapon at a subject's head, throat, or genital area (because of the associated medical risks), and to avoid the arms and legs (because of the risk that one or both of the probes will miss the subject, rendering the deployment ineffective). If the chest area were added to that list of prohibited target areas, the only remaining frontal target area would be the lower abdomen, but this is an unrealistically small target area, given the intensity and rapidly changing nature of many police-subject encounters. It would likely mean that officers would have to restrict their use to push-stun mode, or to probe mode on the subject's back.

Having said that, I remain concerned about the medical risks I have discussed. At the very least, recruit training should emphasize the medical risks that have been identified to date, and recruits should be counselled to deploy in probe mode in the chest area only as a last resort.

There are also several "indirect" medical risks associated with the use of conducted energy weapons. Most of these risks flow from:

- the intense pain, stress, and anxiety experienced by the subject—this can lead to ventricular fibrillation in healthy subjects or those with pre-existing heart conditions, to myocardial infarction, or to internal hemorrhaging due to rupture of an artery or the heart wall; or
- the intense muscle contractions caused by the weapon's electrical current—this can lead to ventricular fibrillation due to acidosis or rhabdomyolysis, or to renal failure due to rhabdomyolysis.

As I see it, these medical risks are only indirectly associated with the weapon's deployment. By that, I mean that deployment of the weapon may trigger a physiological response by the subject, which can then lead to a medical complication; or the weapon's electrical current may cause muscle contractions that then lead to other medical consequences. I am satisfied that these risks can be managed through

appropriate rules respecting multiple deployments of weapons, and through different approaches to de-escalating crisis situations involving emotionally disturbed subjects.

ii. Proportionality—An application of Canadian values

Quite apart from the medical risks that I have discussed, it seems to me that deciding what level of subject behaviour justifies deployment of a conducted energy weapon requires a consideration of proportionality. In other words, the use of force should be commensurate to the level of the subject's resistance. In deciding this issue, which is an essentially subjective exercise, I give much weight to what I call Canadian values, which in this context includes matters such as respect for the individual, the public's right to personal safety, and fairness. Until now, it has been left to law enforcement agencies to make their own determination of proportionality and they have, almost without exception, adopted a subject behaviour threshold of "active resistance."

If the definitions of "active resistance" quoted earlier had focused primarily on a subject's active confrontation with an officer, and had then added as a subordinate example running away from an officer, I might have concluded that "active resistance" is a reasonable threshold. However, the definitions do just the opposite—the principal focus of both formulations is pulling away from the officer.

In my view, that type of behaviour is not egregious enough to warrant deployment of a weapon that is designed to inflict intense pain and to totally incapacitate the subject. There are other devices, weapons, and force options available to police officers to adequately deal with these types of behaviours. It would embarrass me as a Canadian to watch a police officer deploy a conducted energy weapon against a subject, even one under investigation for a criminal offence, for merely walking or running away from the officer.

If "active resistance" is too low a threshold, then what level of subject behaviour would be more appropriate, with regard to the medical risks I have discussed and my sense of proportionality as viewed through a "Canadian values" lens? Should I recommend the RCMP's new "active resistance plus a threat to officer or public safety" level, the "assaultive" level found in the two use-of-force models, or perhaps

even the higher “grievous bodily harm or death” level as suggested by several presenters? Or should I propose a different threshold falling somewhere within this range?

In considering this issue, I am mindful of the two competing values discussed earlier—the need to give the police appropriate tools to do their difficult job and the duty on officers to use the least force necessary in order to manage the risk. When then-Attorney General Ujjal Dosanjh approved use of conducted energy weapons in 1999, he did so on the understanding that they would be deployed sparingly: only in situations where the subject was assaultive or combative; or a threat to themselves, the police, or some third person. Since then, the threshold for use has dropped significantly, from assaultive behaviour to a very loosely drawn definition of active resistance.

In my view, it would be unrealistically restrictive to limit use of conducted energy weapons to “grievous bodily harm or death” situations. As I discussed earlier, officers are justified in using lethal force in such situations so, by definition, they would also be permitted to resort to any other force option as well, including conducted energy weapons.

That brings me to the RCMP’s new “active resistance plus threat” level, and to “assaultive” behaviour, which I will discuss in turn. As I discussed in Part 5, my interpretation of the RCMP’s February 2009 policy amendment is that deployment of a conducted energy weapon is now permitted against a subject who is exhibiting active resistance, but only if the subject’s behaviour poses a threat to officer or public safety. The RCMP’s Incident Management/Intervention Model states that a subject is actively resistant if “the person demonstrates resistance to control by the police officer through behaviours such as pulling away, pushing away or running away.” It is difficult to see how any of these behaviours can pose a threat to officer or public safety, so the new policy must contemplate some more dangerous level of subject behaviour. In the RCMP’s Incident Management/Intervention Model, the next higher level is “assaultive” which, as I will discuss below, applies when “the person attempts

or threatens to apply force to anyone.” However, the new policy is so generally worded that it would appear to catch behaviours that fall below the “assaultive” threshold. For example, it uses the term “threat” without adding any qualifier, such as the Incident Management/Intervention Model’s threat “to apply force.” Similarly, “public safety” is ambiguous. Assuming that it means a threat to the safety of a member of the public, the policy provides no guidance as to what type of threat must be present before deployment is justified. Further, the new policy does not state how serious or imminent the threat must be, and appears to authorize deployment based solely on the officer’s subjective opinion, without also requiring that there are reasonable grounds for doing so. In my view, the threshold for deployment contained in the RCMP’s new policy is too imprecise and, based on my interpretation of it, too low to justify deployment of a conducted energy weapon.

Turning now to a consideration of the “assaultive” level of subject behaviour, “assaultive” is the general range of subject behaviour that I believe constitutes an appropriate threshold. However, I have misgivings about the actual descriptions as found in the two use-of-force models. They state as follows:

National Use of Force Framework²⁵⁰

Assaultive—the subject attempts to apply, or applies force to any person; attempts or threatens by an act or gesture, to apply force to another person, if he/she has, or causes that other person to believe upon reasonable grounds that he/she has, present ability to effect his/her purpose. Examples include kicking and punching, but may also include aggressive body language that signals an intent to assault.

RCMP’s Incident Management/Intervention Model²⁵¹

Assaultive—the person attempts or threatens to apply force to anyone, *e.g.*, punching, kicking, clenching fists with intent to hurt or resists, threats of an assault. In the case of a person operating a vehicle, they attempt to collide with the police vehicle, another vehicle or a pedestrian.

If we “unbundle” the National Use of Force Framework definition, we find that “assaultive” includes four different types of behaviours:

250 *Ibid.*, see footnote 58, pp. 7-8.

251 *Ibid.*, see footnote 63.

- *Applying force to another person*—this approximates the criminal offence of assault under s. 265(1)(a) of the *Criminal Code*, which states, “A person commits an assault when without the consent of another person, he applies force intentionally to that other person, directly or indirectly.”
- *Attempting to apply force to any person*—this approximates the separate criminal offence of attempted assault, under the combined effect of s. 265(1)(a) and s. 24 of the *Criminal Code*.
- *Attempting or threatening by an act or gesture, to apply force to another person, if he/she has, or causes that other person to believe upon reasonable grounds that he/she has, present ability to effect his/her purpose*—this constitutes the criminal offence of assault under s. 265(1)(b) of the *Criminal Code*.
- *Aggressive body language that signals an intent to assault*—this falls short of the criminal offence of assault, and may also fall short of an attempted assault because s. 24 of the *Criminal Code* distinguishes between attempts and mere preparation, the latter of which is too remote to constitute an attempt.

A similar unbundling of the RCMP’s Incident Management/Intervention Model reveals that its definition of “assaultive” includes the following behaviours:

- *Attempting to apply force to anyone*—this approximates the criminal offence of attempted assault, as discussed above.
- *Threatening to apply force to anyone*—this falls short of the criminal offence of assault under s. 265(1)(b), because it makes no reference to the subject having a present ability to effect his or her purpose.
- *In the operation of a vehicle, attempting to collide with the police vehicle, another vehicle or a pedestrian*—this approximates the criminal offence of assault, by applying force indirectly.
- *Clenching fists with intent to hurt, or threats of an assault*—these likely fall short of the criminal offence of assault or attempted assault.

It will be seen that those who drafted both frameworks were using the *Criminal Code* definition of common assault as the benchmark for “assaultive” behaviour. Common assault is defined as the intentional application of *any* force without consent. It would, for example, include laying a hand on an officer’s arm or patting the officer on the shoulder. However, both frameworks go further. They also justify use of a conducted energy weapon even when there has only been an attempted common assault, which does not require any touching of the officer and, more significantly,

they justify use of a conducted energy weapon when no criminal offence has been committed, such as by using “aggressive body language that signals an intent (but not an attempt) to assault,” or by “threatening to apply force” or by “clenching fists with intent to hurt.” To the same effect, the RCMP’s February 2009 policy amendment (“threat to officer or public safety”) justifies use of a conducted energy weapon in threatening situations, when the subject’s behaviour falls short of even attempted assault.

In my view, importing the *Criminal Code* standard of common assault sets too low a threshold—it authorizes the officer to use far more force than the force that is being used by the subject. Justifying deployment of a conducted energy weapon in the case of an attempted assault, or even behaviour that falls below any criminal conduct, is even less defensible.

I support in principle the approach of couching the subject behaviour threshold in *Criminal Code* terminology, because police officers are familiar with those categorizations, and judicial interpretation over the years gives such terms some certainty of meaning.

Having regard to the medical risks discussed above, and to my sense of proportionality, I believe that a threshold approximating the *Criminal Code* definition of assault causing bodily harm found in s. 267(b) would be appropriate. It requires demonstrably more dangerous behaviour than “assaultive” as defined by both use-of-force models, but adopting a “bodily harm” threshold is not so high as to be unreasonably onerous. “Bodily harm” is defined in s. 2 of the *Criminal Code* as “any hurt or injury to a person that interferes with the health or comfort of the person and that is more than merely transient or trifling in nature.”

In my view, the subject behaviour threshold should be met when the subject is causing bodily harm or the officer is satisfied, on reasonable grounds, that the subject’s behaviour will imminently cause bodily harm. There are several aspects of this proposed new threshold that warrant comment:

- *“is causing”*—it is not enough that the officer is aware that the subject “has caused” bodily harm, even moments ago. There must be a continuing risk.
- *“is satisfied on reasonable grounds”*—it is not enough to leave it up to each officer to decide, on a purely subjective basis, whether he or she will deploy the conducted energy weapon. In my view, that decision should also include an objective component. By that I mean that the officer must personally believe that deployment is necessary (the subjective element), but a disinterested third person who is aware of all the circumstances and is acting reasonably would also reach the same conclusion (the objective element). For the officer’s actions to be justified, both elements must be established.
- *“imminently”*—there must be some immediacy to the threat, and a present ability to cause bodily harm.

Recommendation 2

I recommend that officers of provincially regulated law enforcement agencies be prohibited from deploying a conducted energy weapon unless the subject’s behaviour meets one of the following thresholds:

- the subject is causing bodily harm; or
- the officer is satisfied, on reasonable grounds, that the subject’s behaviour will imminently cause bodily harm.

However, I would not want officers to conclude that, whenever this “causing bodily harm” threshold is met, they are automatically justified in deploying a conducted energy weapon. Both use-of-force models emphasize the need for officers to constantly reassess the situation and to use the least amount of intervention needed to manage the risk.

Recommendation 3

I recommend that, even if the threshold set out in Recommendation 2 is met, an officer be prohibited from deploying a conducted energy weapon unless the officer is satisfied, on reasonable grounds, that:

- no lesser force option has been, or will be, effective in eliminating the risk of bodily harm; and

- de-escalation and/or crisis intervention techniques have not been or will not be effective in eliminating the risk of bodily harm.

There is currently no outright prohibition on deployment of a conducted energy weapon against a subject who is handcuffed or restrained. The policies of most agencies are silent on this issue, while the policies of two other agencies specifically prohibit such use, “unless behaviour cannot be controlled otherwise.” This exception effectively authorizes such deployments, if the officer subjectively considers it necessary. I do not think it would be appropriate to recommend a policy banning deployment in such circumstances, because one can imagine scenarios in which a handcuffed or restrained subject could cause bodily harm, or be imminently capable of doing so. However, I would think that it would be a rare event that an officer would be justified, under my proposed subject behaviour threshold, to deploy a conducted energy weapon against a subject who is handcuffed or otherwise restrained.

iii. Emotionally disturbed people

In Part 9 I discussed at length the challenges that police officers face when confronted with emotionally disturbed people who display extreme behaviours, including violence, imperviousness to pain, superhuman strength and endurance, hyperthermia, sweating, and perceptual disturbances.

The unanimous view of mental health presenters was that the best practice is to de-escalate the agitation, which can best be achieved through the application of recognized crisis intervention techniques. Conversely, the worst possible response is to aggravate or escalate the crisis, such as by deploying a conducted energy weapon and/or using force to physically restrain the subject.²⁵² It is accepted that there may

252 Until recently, RCMP policy stated: “Individuals experiencing excited delirium require medical treatment which first requires that they be restrained. In considering intervention options for excited delirium cases, the use of the [conducted energy weapon] in a probe-mode deployment may be the most effective response to establish control.” However, the February 2009 policy amendments make no reference to “excited delirium.” Rather, “Acutely agitated or delirious persons may be at a high risk of death. If an individual is in an acutely agitated or delirious state, and whenever possible when responding

be some extreme circumstances, however rare, when crisis intervention techniques will not be effective in de-escalating the crisis. But even then, there are steps that officers can take to mitigate the risk.

Training in crisis intervention is relevant beyond the issue of conducted energy weapon use. Officers are, with increasing regularity, called upon to deal with emotionally disturbed people. The psychiatrists and other mental health professionals who made presentations during our public forums have persuaded me that the week-long crisis intervention training that they talked about should not be tied just to use of conducted energy weapons, but should be an essential part of recruit or in-service training.

Recommendation 4

I recommend that the Ministry of Public Safety and Solicitor General approve a curriculum for crisis intervention training comparable to that recommended by presenters at our public forums, and require:

- that it be incorporated without delay in recruit training for officers of provincially regulated law enforcement agencies; and
- that all currently serving officers of provincially regulated law enforcement agencies satisfactorily complete the training within a time frame established by the ministry.

Recommendation 5

I recommend that officers of provincially regulated law enforcement agencies, when dealing with emotionally disturbed people, be required to use de-escalation and/or crisis intervention techniques before deploying a conducted energy weapon, unless they are satisfied, on reasonable grounds, that such techniques will not be effective in eliminating the risk of bodily harm.

to reports of violent individuals, request the assistance of emergency medical services. If possible bring medical assistance to the scene” (Chapter 17.1, para. 3.1.4.).

b. Subject self-harm

In the preceding discussion, the focus has been on a subject's behaviour as directed at an officer or a member of the public. However, consideration must also be given to instances of subject self-harm. According to the Commission's empirical analysis of conducted energy weapon usage by municipal police departments, almost 20 percent of weapon deployments involved subjects who were threatening or attempting suicide or were otherwise engaged in self-injurious behaviour.

In my view there is a persuasive public policy justification for deploying a conducted energy weapon in some of these circumstances. Again, we need to articulate a threshold that takes into account the medical risks and a sense of proportionality. On balance, I believe that the same "causing bodily harm" threshold set out in Recommendation 2 is appropriate in cases of subject self-harm.

Recommendation 6

I recommend that officers of provincially regulated law enforcement agencies be prohibited from deploying a conducted energy weapon in the case of subject self-harm unless:

- the subject is causing bodily harm to himself or herself; or
- the officer is satisfied, on reasonable grounds, that the subject's behaviour will imminently cause bodily harm to himself or herself.

F. MULTIPLE DEPLOYMENTS

The Commission's empirical analysis of conducted energy weapon usage in British Columbia revealed that when the weapon was used in push-stun mode, it was discharged against a subject for more than one cycle in 45 percent of deployments, with the highest number of cycles against one subject being 14. When deployed in probe mode, the weapon was discharged against a subject for more than one cycle in 36 percent of cases, with the highest number of cycles against one subject being 10.

The Commission's review of law enforcement agency policies showed that, when used in push-stun mode:

- Four agencies state that continuous applications for periods exceeding 15 to 20 seconds may pose an increased risk to the subject;
- Three agencies state that a second discharge should last only five seconds; and
- One agency acknowledges that continuous discharge may be hazardous to the subject, and cautions that unless situational factors require it, continuous discharge should not be applied.

When used in probe mode, there was a similar variation in policy direction:

- Five agencies require a situational reassessment after the initial failure of a first (or second) discharge;
- Seven agencies state that a second discharge may be appropriate if the first discharge does not control the subject;
- One agency states that if the subject has not been controlled after two discharges, the officer should consider that the weapon is ineffective and consider another appropriate force option to gain control; and
- No agencies specify a maximum number of discharges.

Training materials give each officer considerable discretion respecting multiple deployments. No agencies impose an absolute cap on the number of cycles permitted, although 10 agencies train that an officer should apply only the number of cycles reasonably necessary to allow them to safely approach and restrain the subject. Several agencies train that if a third cycle is required, officers should consider another force option.

The manufacturer's training materials acknowledge that the application of a conducted energy weapon is a physically stressful event, and officers should avoid extended or repeated applications where practicable. If circumstances require extended duration or repeated discharges, the operator should take care to observe the subject and provide breaks in the weapon stimulation when practicable. Officers should apply only the number of cycles reasonably necessary to allow them to safely restrain the subject. The manufacturer concedes in a product warning document that

the stress and exertion of extensively repeated, prolonged, or continuous applications may contribute to exhaustion, stress, and associated medical risks.

Animal studies have shown that repetitive deployment increases the risk of ventricular fibrillation, and Dr. John Webster told me that he was satisfied that multiple deployments against humans are more dangerous than a single deployment. Other presenters echoed this concern. As I discussed in Part 9, several public agencies have expressed concern that multiple deployments may impair respiration and may increase the risk of acidosis.

Having concluded that there are medical risks associated with a single deployment of a conducted energy weapon, I am similarly persuaded that multiple deployments increase at least some of these medical risks. While one cannot yet quantify this increased risk, I am satisfied that the risk increases as the number of deployments increases.

The challenge comes in deciding how to translate this concern into operational policy. I do not think it would be responsible to impose a “one discharge” rule, because there is clear evidence that in some circumstances a single five-second discharge does not incapacitate the subject. Similarly, I do not think it would be appropriate to impose some arbitrary maximum number of discharges.

At the same time, I do not think it is enough to leave it up to each officer to decide, on a purely subjective basis, whether he or she will deploy the weapon multiple times. In my view, that decision should also include an objective component. By that I mean that the officer must personally believe that a second or subsequent deployment is necessary (the subjective element), but a disinterested third person who is aware of all the circumstances and is acting reasonably would also reach the same conclusion (the objective element). For the officer’s actions to be justified, both elements must be established.

Beyond that, the issue of multiple deployments must be left to training, which should include a frank description of the medical risks associated with conducted energy weapon use, and how multiple deployments increase those risks.

Recommendation 7

I recommend that officers of provincially regulated law enforcement agencies be prohibited from discharging an electrical current from a conducted energy weapon on a subject for longer than five seconds, unless the officer is satisfied, on reasonable grounds, that:

- the five-second discharge was not effective in eliminating the risk of bodily harm; and
- a further discharge will be effective in eliminating the risk of bodily harm.

What this recommendation seeks to achieve is to force the officer to reassess the situation at the completion of a five-second discharge, before the officer discharges the weapon again. To put it another way, an officer is justified in discharging the weapon if the requirements set out in Recommendations 2 and 3 are met, but that justifies only a discharge of up to five seconds. No further discharge of the weapon is justified, unless the officer meets the requirement set out in Recommendation 7. Further, any subsequent discharge requires a new reassessment under Recommendation 7.

This recommendation is also intended to eliminate the practice of an officer holding the trigger down continuously, as the electrical current continues as long as the trigger remains depressed. The situation must be reassessed after every five-second discharge.

G. OTHER PRECAUTIONARY MEASURES

1. Requesting paramedic assistance

The Commission's empirical analysis showed that provincial ambulance attendants examined the subject at the scene in 33 percent of cases, although this percentage

varied widely (zero to 71 percent) among police departments. In 24 percent of cases, the subject suffered a weapon-related injury, although only 2 percent were more serious than welts from push-stun mode deployment, penetration of probe darts, cuts, or falls following incapacitation.

In some cases, it will be self-evident to the officer whether or not paramedic assistance should be requested. What is less clear are the other instances when a medical emergency has not yet occurred, but medical risks are present. In such cases, prudence dictates a request for paramedic assistance either before deployment of the conducted energy weapon, or as soon as practicable after deployment.

Recommendation 8

I recommend that paramedic assistance be requested in every medically high-risk situation, preferably before deployment of a conducted energy weapon or, if that is not feasible, then as soon as practicable thereafter. Medically high-risk situations include, but are not limited to:

- deployment in probe mode across the subject's chest;
- deployment in probe mode for longer than five seconds;
- deployment in any mode against:
 - an emotionally disturbed person;
 - an elderly person;
 - a person who the officer has reason to believe is pregnant; or
 - a person who the officer has reason to believe has a medical condition that may be worsened because of the deployment (*e.g.*, heart disease, implanted pacemaker or defibrillator, etc.).

2. Automated external defibrillators

Several presenters, including Drs. Tseng and Kerr, urged me to recommend that every police officer who carries a conducted energy weapon should also have, in the police cruiser, an automated external defibrillator so that if the subject goes into cardiac

arrest, the officer can defibrillate the subject before paramedic assistance arrives. I think that is sound advice.

I understand that these devices are now widely used in shopping malls, sporting events, and private homes. They require very little instruction, and cost about the same as or a little more than a conducted energy weapon.

Recommendation 9

I recommend that whenever a conducted energy weapon is assigned to an officer of a provincially regulated law enforcement agency, that the officer also have an automated external defibrillator readily available for use.

3. Distinguishing between push-stun and probe mode deployments

I have given consideration to whether the rules should be less onerous when a conducted energy weapon is used in push-stun mode as opposed to probe mode.

I recognize that in push-stun mode the weapon causes intense pain but does not incapacitate the subject, and that many of the medical risks discussed in Part 9 result from use in probe mode.

Currently, the policies of almost all law enforcement agencies in British Columbia do not distinguish on this basis. In my view, that is an appropriate approach. I am satisfied that my proposed “bodily harm” subject behaviour threshold is proper, even if the weapon is deployed only in push-stun mode. Also, it is important to keep the deployment rules as simple as possible, to assist officers who must make split-second decisions in sometimes intense and rapidly changing circumstances.

4. Which officers should be assigned conducted energy weapons?

The practice varies within British Columbia and across Canada respecting which officers are assigned conducted energy weapons. As I noted in Part 8, several recent reports have made contradictory recommendations on this issue:

- In its June 2008 *Final Report*,²⁵³ the Commission for Public Complaints Against the RCMP supported the use of conducted energy weapons by specialized response teams without restriction, but otherwise the use of such weapons should be restricted as follows:
 - In urban settings, conducted energy weapons should be used only by officers with the rank of corporal or above; and
 - In rural settings, such weapons should be used by constables only if they have at least five years of operational experience.
- In February 2009, the Canadian Association of Chiefs of Police and the Canadian Police Association published a joint position document²⁵⁴ on conducted energy weapons, in which they expressed the view that all police officers should be authorized to carry a conducted energy weapon.

It is not clear, from the RCMP Commission's report or from the joint position document, what empirical evidence led those bodies to make the recommendations they did. Based on my Commission's research, and on presentations made during our public forums, I am not aware of any compelling need to impose restrictions on which officers should be permitted to carry a conducted energy weapon. Assuming that an officer is properly trained and certified before a weapon is assigned to the officer, and assuming that the officer deploys the weapon in accordance with the recommendations contained in this Report, the evidence before me does not justify limiting its assignment to certain categories of officers. While I do not want to understate the risks associated with use of a conducted energy weapon, those risks are significantly less than the risks associated with a service pistol. I would find it hard to justify recommending a restriction on the assignment of conducted energy weapons if no such restriction applies to the assignment of a service pistol.

At the same time, it would be equally inappropriate for me to recommend that *all* officers in a law enforcement agency be authorized to carry a conducted energy weapon. In my view, that is an operational decision properly left to each agency.

253 *RCMP Use of the Conducted Energy Weapon (CEW)—Final Report*, dated June 12, 2008; see http://www.cpc-cpp.gc.ca/prr/inv/cew-ai/cew_fin_rp-eng.aspx.

254 *Ibid.*, footnote 150.

H. PROVINCIAL REGULATION

Mr. Dosanjh, Q.C., told me that when he, as Attorney General, authorized British Columbia's municipal police departments in 1999 to use conducted energy weapons, it was on the understanding that the weapons would be used sparingly—only in situations where the subject was assaultive or combative, or a threat to themselves, the police, or some third person.

Notwithstanding that admirable intention, something has gone seriously wrong. No provincial legislation or regulation has specifically approved conducted energy weapons for use, approved specific models, set province-wide standards for when such weapons can (or cannot) be used, specified what training is required of operators or instructors, or required mandatory reporting of weapon usage. Individual police departments have been left to their own devices in developing policy around use of these weapons and, since 2006, developing training materials and programs for their recruits and officers.

This alarming abdication of leadership at the provincial level has led to the policing community, rather than the executive branch, establishing policy. This has resulted in a blurring of policy and training, inconsistencies in both policy and training among municipal police departments, an unhealthy dependence on the manufacturer respecting contentious policy issues, and a quite extraordinary “usage creep.”

The province has unquestioned legislative authority under s. 74 of the *Police Act* to provide leadership in this area (respecting both use-of-force and officer training) and, under s. 40, the Director of Police Services is authorized to make recommendations to the minister. The executive branch should, without further delay, exercise this broad authority.

I repeat what I have said several times in this Report: it is the responsibility of the executive and legislative branches to set policy respecting the approval and use of conducted energy weapons, and for law enforcement agencies to train, and for officers to deploy those weapons, in accordance with that policy.

Recommendation 10

I recommend that the provincial government set province-wide standards relating to conducted energy weapons, including, but not necessarily limited to:

- which conducted energy weapon models are approved for use;
- the circumstances in which a conducted energy weapon may, or must not, be used;
- qualifications to begin training as an operator, instructor, or master trainer;
- the curriculum for operator, instructor, and master instructor training programs, including content, duration, pass/fail level, remedial training, and re-certification;
- mandatory reporting of each conducted energy weapon use, including what information must be reported and in what form; and
- periodic province-wide analysis of usage reports, with mechanisms to ensure that the results of such analysis inform policy development and training.

I. TRAINING AND RE-TRAINING

In Part 6, I identified the numerous deficiencies in training, many of which flow from the 2006 decision by the Justice Institute-Police Academy to withdraw from almost all aspects of conducted energy weapon training for recruits.

In my view there should be one entity that is responsible for training municipal police officers, Sheriff Services Division officers, and Corrections Branch officers in the use of conducted energy weapons, as an integral component of use-of-force training generally. The Justice Institute (Police Academy) is without question the appropriate body to perform this function.

I am not suggesting that all law enforcement agencies be required by law to assign conducted energy weapons to all its officers. That is an operational decision for each agency. If an individual agency chooses not to assign these weapons to all its officers, then the question arises whether that agency may insist that its recruits not receive

conducted energy weapon training at the Police Academy. I cannot answer that question in a vacuum. It will depend on the extent to which this aspect of use-of-force training is integrated into use-of-force training generally. That is a matter best left to the Police Academy.

If my recommendation respecting the role of the provincial government is accepted, with the result that provincial policies focus on *when* conducted energy weapons are used and training focuses on *how* they are used, then trainers' reliance on the manufacturer's training materials may cease to be a problem. Those materials should logically be a primary training resource, given that the manufacturer has designed and built the weapon, knows how it works, and how it should be cared for.

While I do not propose to make detailed recommendations respecting the content of training and re-training programs, I do want to emphasize the importance of providing clear instruction respecting the medical risks associated with conducted energy weapon use, especially as they relate to deployments across the chest, multiple deployments, and dealing with emotionally disturbed subjects. More generally, I am concerned about the mentality or attitude that officers have about these weapons. If they are trained that conducted energy weapons are just another non-lethal weapon, they will fail to appreciate the serious medical risks inherent in their use. However, if officers are trained that these weapons are capable of causing death or other specified medical conditions, then they will be more likely to treat any negative post-discharge outcome as a medical emergency and take appropriate resuscitative measures, such as cardiopulmonary resuscitation, automatic external defibrillator, or call for paramedic assistance.

Recommendation 11

I recommend that the Police Academy be responsible for training officers of provincially regulated law enforcement agencies in the use of conducted energy weapons, as an integral component of use-of-force training generally, and that training be conducted in accordance with the policies established by the provincial

government, taking into consideration the medical risks discussed in this Report.

I will comment on one aspect of training that troubles me—voluntary exposure to the electrical current of a conducted energy weapon during training and re-training. As I noted in Part 6, the manufacturer strongly recommends (but does not require) voluntary exposure during its training programs. In British Columbia, no law enforcement agency requires that trainees be exposed. Seven agencies permit exposure if the trainee volunteers, while seven others prohibit exposure during training, even with trainee consent.

The only rationale I can see for voluntary exposure during training is so that recruits will have a sense of how painful the weapon’s electrical current is, thereby encouraging prudence in its use. That unconvincing rationale must be weighed against several risks. First, there are medical risks associated with use of the weapon, as I discussed in Part 9, and those risks do not go away when the manufacturer’s suggested protocol for voluntary exposure is followed. Second, the term “voluntary” exposure is a misnomer, as peer pressure will inevitably cause some recruits to give their consent even though they would prefer not to receive an exposure. In my view, the risks far outweigh the benefits, and I do not support voluntary exposure during training or re-training.

Recommendation 12

I recommend that the province’s standards relating to the curriculum for operator, instructor, and master instructor training and re-training prohibit a trainer’s or trainee’s exposure to the electrical current of a conducted energy weapon.

J. CERTIFICATION AND TESTING OF CONDUCTED ENERGY WEAPONS

1. Certification

Conducted energy weapons are unique within the panoply of intermediate weapons, given that they transmit an electrical current and are designed to achieve control over

a subject either through pain compliance or neuromuscular incapacitation. As I discussed in Part 9, I am satisfied that these weapons have the capacity to cause death to a human subject, through a variety of mechanisms. While these medical risks may be mitigated, some risks remain.

Although Canadian law enforcement agencies currently use only two models of conducted energy weapons, both produced by the same manufacturer, that manufacturer produces or is developing other models which may have significantly different characteristics, and thus risks. For example, its proposed self-contained XREP will fire a wireless projectile from a 12-gauge shotgun, delivering the same neuromuscular incapacitation as the handheld X26, but for 20 seconds instead of five seconds. Being wireless, it would appear that the operator would have no way of terminating the electrical current during the 20-second discharge.

Other manufacturers offer a variety of conducted energy weapons, including electrified batons, electrified riot shields, and electrified waist or leg cuffs for prisoner transport.

As I reported in Part 4, presenters observed that there are international standards for products such as electrical fences that must be complied with before they can be sold in Canada, yet no such standards exist for conducted energy weapons. In 2006, the Canadian Police Research Centre expressed concern that “there are no known, scientifically tested, independently verified, and globally accepted [conducted energy weapon] safety parameters,” which means that law enforcement agencies are completely reliant on manufacturer claims regarding the safety of their products.

It would appear that the definition of “restricted products” under the federal *Hazardous Products Act* is broad enough to include conducted energy weapons, which means that the federal Governor in Council may make regulations prescribing the circumstances and conditions under which they may be imported into, and sold in, Canada. By adding conducted energy weapons to the list of restricted products, the federal government could require that they undergo safety testing or product standards certification before being imported or sold.

Recommendation 13

I recommend that the Attorney General ask the federal minister responsible for administration of the *Hazardous Products Act*:

- to add conducted energy weapons to the schedule of restricted products under that Act; and
- to make regulations prescribing the circumstances and conditions under which such weapons may be imported into, and sold in, Canada.

2. Periodic testing

The recent testing of 44 conducted energy weapons, in a study commissioned by the CBC, points to a risk that such weapons are capable of transmitting an electrical current greater than that specified by the manufacturer, which will increase the pain the subject experiences and may increase medical risks.

The resulting decision by numerous law enforcement agencies across the country to remove some of their weapons from service for testing was, in my view, prudent. As I noted earlier in this Report, we all should be concerned about anything that erodes public confidence in our law enforcement agencies.

The Commission discovered that no BC law enforcement agency has policies respecting routine weapon calibration or testing of output.

From the material I have reviewed, I am satisfied that the area of greatest concern relates to the amount of current discharged by a weapon. Given that the X26 model emits 19 pulses each second, and that each pulse is supposed to last for only 100 microseconds (100 millionths of a second), there are at least three manufacturer's specifications that should be periodically tested:

- the number of pulses per second;
- the duration of each pulse; and
- the maximum current during each pulse.

On this issue, Mr. Reilly told me that the manufacturer's specifications state that the X26's current is "2.1 milliamps average" (*i.e.*, 2.1 thousandths of an ampere).

Mr. Reilly, on the other hand, stated that the X26 has a peak output current of 3 amperes. He explained the difference—his number measures the actual amperage during one of these very short pulses that lasts only 100 millionths of a second, whereas the manufacturer’s number is an average over the total time period, during and between pulses. I agree with his assessment that the actual amperage during one of these very short pulses is the key electrical current that must be measured.

It is equally important, for public confidence, that the periodic testing of conducted energy weapons be conducted according to a testing protocol approved by an independent body. If the federal government approves specific models for use in Canada, then periodic testing could be conducted against the manufacturer’s specifications. In the absence of federal endorsement, then the independent body approving the testing protocol would have to articulate the specifications that the weapon must meet.

Recommendation 14

I recommend that every conducted energy weapon used by officers of provincially regulated law enforcement agencies be periodically tested for electrical output, according to a testing protocol approved by an independent body and according to a schedule established by the Ministry of Public Safety and Solicitor General, and that the test include, but not necessarily be limited to:

- the number of pulses per second;
- the duration of each pulse; and
- the maximum current during each pulse.

3. Testing after a serious injury or death

No provincially regulated law enforcement agency in British Columbia has policies respecting weapon calibration or testing of output following a serious injury or death proximate to weapon use.

The RCMP’s February 2009 policy amendment now requires independent testing of a weapon at a designated testing facility in three circumstances:

- following an incident involving injury requiring medical treatment or death proximal to use of the weapon;
- when a weapon was ineffective or malfunctioned; and
- when a specified senior officer is of the opinion that testing is warranted in the circumstances, including a desire to address any concerns about the performance of a weapon or the circumstances or impacts of its use.

Given the medical risks associated with a conducted energy weapon's electrical current, and given the apparent capacity of a weapon to discharge a current greater than that specified by the manufacturer, I am satisfied that whenever there is a serious injury or death proximate to weapon use, the weapon should be withdrawn from service and its electrical output should be tested.

Recommendation 15

I recommend that whenever there is a serious injury or death proximate to use of a conducted energy weapon by an officer of a provincially regulated law enforcement agency, the weapon be withdrawn from service and its electrical output be tested in accordance with, and for the matters referred to in, Recommendation 14.

K. REPORTING ON CONDUCTED ENERGY WEAPON USE

During his presentation at our public forums, the provincial Director of Police Services told me²⁵⁵ that the ministry currently collects, annually, high-level data from municipal police departments on use-of-force tools. However, there is currently no mechanism in place to collect use-of-force data specific to conducted energy weapons that can be used to effect good policy development and training standards. The ministry is currently working on improving use-of-force aggregate data-collection methods for the province, through the development of an electronic template for incident-based use-of-force data in the PRIME (Police Records Information Management Environment) system. He did not indicate when these improved data collection initiatives would be operational.

255 Transcript, May 7, 2008, pp. 59-61.

In the meantime, each municipal police department sets its own policy on what information is recorded respecting use of conducted energy weapons, and what use is made of this information. As I discussed in Part 5 of this Report, all agencies require that a use-of-force or analogous written report be completed after a conducted energy weapon has been deployed but, beyond that, policies vary:

- Only six agencies specify that a use-of-force report must be completed even if the weapon is used in display mode only;
- Three agencies specify the narrative content of use-of-force reports;
- Six agencies require that the data be downloaded from the weapon and be attached to the use-of-force report;
- Almost all agencies require that a completed use-of-force report be submitted to a supervisor, but there is no consistency in what the supervisor does with the reports;
- Five agencies require that the “Subject Behaviour-Officer Response” template report in PRIME be completed;
- Only one agency requires that the firearms officer maintain a software program detailing all operational deployments; and
- Six agencies specify the circumstances warranting a review of general use-of-force reports.

As I discussed in Part 7, Commission researchers sent requests to all provincially regulated law enforcement agencies for copies of all conducted energy weapon incident reports. For some agencies, these requests posed a significant challenge in identifying and retrieving incident reports. When reports were retrieved, it was equally troubling that attempts to match incident reports to civilian complaints indicated that there has been significant under-reporting of conducted energy weapon use, perhaps by as much as 50 percent.

In my view, procedures must be implemented (and enforced), to eliminate concerns about under-reporting. For example, whenever a conducted energy weapon and/or a probe cartridge is issued to an officer, the officer should be required to sign for it. In addition, there should be regular data downloads of every conducted energy weapon, with a matching of the data relating to each deployment and the related use-of-force incident report. However, I do not think that simply enacting policies on these

matters is sufficient. Almost all agencies already require that a completed use-of-force report be submitted to a supervisor, and six agencies already require that the data be downloaded from the weapon and be attached to the use-of-force report, yet the Commission found evidence of significant under-reporting. That problem can only be remedied by requiring each provincially regulated law enforcement agency to assign responsibility for these tasks to one or more specified employees.

The bottom line is that we have a very incomplete picture of how often and in what circumstances these weapons are being used, with little evidence that incident usage data is being used to improve policy, determine compliance with policy, or enhance training.

Based on the information before me, I conclude that there has been an absence of provincial leadership in:

- establishing province-wide standards for reporting on conducted energy weapon usage;
- developing a province-wide reporting system; and
- using the data from such reports to inform provincial policy respecting weapon use and to inform training.

Conducted energy weapons are, and will continue to be, a controversial use-of-force option because of their capacity to cause intense pain and incapacitation, and because of the medical risks associated with their use. Thus, it is imperative that important information about each incident be reported and recorded, and that this information be used to drive improvements to policy and training. Given the significant public interest in these weapons, it is equally important that detailed information about conducted energy weapon usage be published regularly.²⁵⁶

²⁵⁶ During our public forums, Staff Superintendent Michael Federico of the Toronto Police Service told me that the police service must report annually, in writing, to the Toronto Police Services Board respecting conducted energy weapon usage. The report includes the number and circumstances of weapon use, injuries and deaths, public complaints, civil law suits, investigations, officer training, deployment, and effectiveness. Board members ask questions and members of the public are invited to comment. See Transcript, May 14, 2008, pp. 61-93.

I recognize that developing a comprehensive reporting system will be complex and will take time. It may require a separate reporting protocol, or it may be possible to incorporate conducted energy weapon reporting into general use-of-force reports. Care will be required to capture all the information needed to properly inform policy development and training, without making it unreasonably onerous on officers. It is hoped that consistency can be achieved with the RCMP (in its capacity as British Columbia's provincial police force) in what incident data is recorded, so that meaningful comparative analyses can be made. For all these reasons, it would be inappropriate for me to attempt to make detailed recommendations about the new reporting system. I will restrict my recommendations to the general goals, about which I sense widespread consensus.

Recommendation 16

I recommend that the provincial Ministry of Public Safety and Solicitor General, without delay:

- develop a province-wide conducted energy weapon incident report form that will capture enough information to permit the type of analysis undertaken by this Commission, as reported in Part 7 of this Report;
- require that the report form be completed whenever an officer of a provincially regulated law enforcement agency deploys a conducted energy weapon, even if deployment is limited to display mode only;
- develop a province-wide electronic system for the reporting and analysis of conducted energy weapon incidents;
- require that every completed report form be forwarded without delay to the ministry, and that the data on the report form be entered into the province-wide electronic system;
- review reported incidents, at least quarterly, for the purposes of informing the development of policy and training;
- publish, at least annually, a detailed report on conducted energy weapon usage by provincially regulated law enforcement agencies; and
- require each provincially regulated law enforcement agency:

- to implement a “sign out” policy whenever a conducted energy weapon and/or a probe cartridge is issued to an officer;
- to designate a specific employee to download the data from every conducted energy weapon at least once every month (matching the data relating to each deployment against the related incident report), and to report any discrepancies to that employee’s supervisor;
- to review the use of conducted energy weapons by its own officers at least quarterly, to determine compliance with policy; and
- to report at least annually, to the responsible provincial minister, and in the case of a municipal police department to the police board, on the agency’s use of its conducted energy weapons.

I recognize that no one likes to fill out reports, and I commend officers who would rather be on the beat than completing forms. However, officers already must complete use-of-force incident reports. The purpose of this recommendation is not to make officers’ lives more difficult, but to standardize reporting and to provide law enforcement agencies and policy-makers with more complete and accurate information.

L. THE NEED FOR FURTHER RESEARCH

Many have proposed additional research into conducted energy weapons. Specific suggestions can be found in many of the reports I summarized in Part 8, in the presentations made during our public forums and in research papers prepared by Commission staff. Implicit in many of these proposals is a frustration that there has been, to date, an inordinate dependence on anecdotal and vendor-supported research and studies. I share those concerns.

Conducted energy weapons were introduced into use in British Columbia based on modest field testing (nine discharges by one police department over six months),

reliance upon equally modest medical research and no federal safety approval. This process is contrasted with the rigorous testing required of medical devices and prescription drugs before they are approved for sale in Canada. In the medical field, the presumption is that a new device or drug is not approved until the manufacturer satisfies federal regulatory authorities that it is safe. With conducted energy weapons, just the opposite occurred. They were approved for use based on a presumption that they were safe, and will continue to be used until they are shown to be unsafe.

After a decade of widespread use by law enforcement agencies across the country, there is little value in closing the barn door—the horse is long gone. But there are things that can be done to remedy this topsy-turvy history. We can, albeit late in the day, identify the risks associated with use of these weapons and press ahead with credible research.

Based on the Commission’s review of the medical research that I summarized in Part 9, and my review of Dr. Chambers’ advice and of proposals made by other presenters and in many reports, I suggest that the types of future research that will be most valuable will be:

- *Independent*—there is a natural tendency to discount studies that are conducted or funded by parties that are perceived to have an interest in the outcome. While the law-enforcement community and vendors are entitled to pursue whatever research activities they desire, policy-makers will legitimately place more confidence in research that is independent of any such interests.
- *Science-based*—it is essential that research is based on data, not anecdote, and that sound methodological standards are followed.
- *Large*—given that much of the research needs to focus on the *capacity* of a conducted energy weapon to cause harm and on attempting to quantify that risk, it is essential that large study samples be used. As I noted in Part 9, there is limited value to research that finds that a particular medical reaction did not occur in a case study involving several dozen subjects, when the risk of such a reaction occurring is in the range of 1:1,000. Implementation of a province-wide conducted energy weapon-incident database, as I proposed in the preceding section, is a prerequisite to these types of studies.

- *Real-life studies*—while I understand the reasons behind using animals for some studies, there is an understandable reluctance to extrapolate results from such studies to humans—researchers themselves acknowledge this limitation. Empirical studies using human subjects are preferred but even then, it is important to use subjects who share characteristics with those who are likely to be the subjects of conducted energy weapon discharges in real life.
- *National scope*—while several reports have called for a specific agency or province to undertake further research, it would be preferable to take on this work nationally, so that it is done once, comprehensively and economically.

As I noted earlier, I am satisfied from the Commission’s review of the North American and international medical research undertaken to date that conducted energy weapons have the capacity to cause serious injury and death. That being so, it seems to me that the most fruitful focus of future research would be to attempt to:

- quantify that risk;
- identify the highest-risk subjects; and
- identify the highest-risk external circumstances.

The results of research into those issues should feed into “best practices”—in other words, using research results to inform policy and training. Several examples come to mind:

- The medical evidence reviewed in Part 9 suggests that the most serious medical risks arise when a conducted energy weapon is deployed in probe mode across the subject’s chest, vectoring the heart. If so, how should that finding influence the development of policy and recruit training?
- The controversy around “excited delirium” distracts us from the real-life challenge of advising officers how to respond to emotionally disturbed people. Once we have a clear understanding of the underlying medical condition and the associated medical risks, we will be in a much better position to develop effective responses that bring the situation under control but do not, in the process, aggravate the medical risks.
- As we understand more about what physiological changes occur in a subject’s body as a result of a weapon’s electrical discharge (especially in the case of multiple deployments), we may be able to give officers more guidance respecting how, and how not, to restrain the subject.

Recommendation 17

I recommend that the Minister of Public Safety and Solicitor General encourage the minister's federal, provincial, and territorial counterparts to develop and fund a national research program for conducted energy weapons that will promote independent, science-based, and peer-reviewed research that attaches priority to:

- quantifying the medical risks associated with conducted energy weapon use;
- identifying the highest-risk subjects;
- identifying the highest-risk external circumstances; and
- developing recommendations for best practices, including but not limited to:
 - deployments in probe mode across the subject's chest;
 - multiple deployments; and
 - emotionally disturbed people.

M. FUTURE REVIEW

My review of conducted energy weapons shows that while we know a great deal about these weapons and their impact on the human body, there is much that we do not know. Medical research is ongoing, and a few years from now we hope to know much more than we do today. My present concerns about medical risks may be put to rest, or they may be heightened.

Similarly, new conducted energy weapons are already entering the market, with different characteristics that may increase or decrease concerns about medical risks, and that may necessitate a reconsideration of proportionality.

Finally, the public needs assurance that their concern about conducted energy weapon usage that precipitated this Commission of Inquiry has resulted in concrete changes to policy and training, and to weapon usage on our streets.

For these reasons, I see this Report as a starting point, not the final chapter on conducted energy weapons. Consequently, I think it is essential that there be an

ongoing assessment of these weapons and their place in our society. I am not content to close with a hopeful suggestion that government undertake further work on these issues; a more definitive commitment is needed.

More than a decade ago, when the Legislative Assembly established a new office of a police complaint commissioner, it entrenched in legislation a requirement for a subsequent review of that office's work. Section 51.2 of the *Police Act*, R.S.B.C. 1996, c. 367 states:

- (1) A special committee of the Legislative Assembly must begin a comprehensive review of this Part and the work of the police complaint commissioner within 3 years after this Part comes into force and must submit to the Legislative Assembly, within one year after beginning the review, a report that includes any amendments to this Part that the committee recommends.
- (2) As part of the review process contemplated by subsection (1), the committee must solicit and consider written and oral input from any interested person or organization.

I think this is a salutary approach, although in this case I would leave it up to the Legislative Assembly to decide whether a special committee of the Legislative Assembly or a respected, knowledgeable, and impartial individual conduct the review.

Recommendation 18

I recommend that the *Police Act* be amended to require that a special committee of the Legislative Assembly, or an individual appointed by the Legislative Assembly, begin a comprehensive review of conducted energy weapons within three years after this Report is made public and submit to the Legislative Assembly, within one year after beginning the review, a report that includes, but is not necessarily limited to:

- the extent to which the recommendations contained in this Report have been implemented;
- new information about the medical risks associated with the use of conducted energy weapons, including new models of weapons that have become available since this Report was written; and

PART 10: RECOMMENDATIONS

- recommendations relating to the circumstances in which it is appropriate to use conducted energy weapons, and to training of officers in the use of such weapons.

Part 11

Postscript: RCMP Compliance with Provincial Regulation

PART 11: RCMP COMPLIANCE WITH PROVINCIAL REGULATION

RCMP COMPLIANCE WITH PROVINCIAL REGULATION.....	339
---	-----

RCMP COMPLIANCE WITH PROVINCIAL REGULATION

It is ironic that although it was the use of a conducted energy weapon by RCMP officers against Mr. Dziekanski at the Vancouver International Airport in October 2007 that precipitated this study commission, the order appointing me to inquire into the use of conducted energy weapons specifically excludes the RCMP from my study.

There is a sound reason of constitutional law for this exclusion. The RCMP is regulated federally, and several rulings from the Supreme Court of Canada have established that a provincially appointed commission of inquiry has only limited authority to inquire into the internal management and administration of the RCMP.²⁵⁷ For this reason, my recommendations are limited to provincially regulated law enforcement agencies. The RCMP is not obligated to implement any of my recommendations, and the province has no legal authority to compel it to do so.

The same “split” happens with police complaints. If a member of the public has a complaint against a municipal police officer, the provincially appointed Police Complaint Commissioner, who acts as an independent watchdog over municipal police departments, oversees the investigation and adjudication of that complaint. However, if the same member of the public has a complaint against an RCMP officer, the provincial Police Complaint Commissioner has no jurisdiction. The investigation and adjudication of that complaint is overseen in Ottawa, by the federally established Commission for Public Complaints Against the RCMP, which has completely separate rules and procedures.

As I noted earlier in this Report, approximately 70 percent of British Columbians live in communities that are policed by members of the RCMP. Some may find it troubling that, if the province accepts and implements the recommendations contained in this Report, these reforms will not automatically apply to most areas of the province. Indeed, they will apply only to the 12 municipalities policed by our 11 municipal police

²⁵⁷ See *Quebec (Attorney General) v. Canada (Attorney General)*, [1979] 1 S.C.R. 218, and *Alberta (Attorney General) v. Putnam*, [1981] 2 S.C.R. 267.

departments, unless the RCMP voluntarily agrees to be bound. That scenario troubles me as well—surely it is in the public interest that the same rules apply throughout the entire province.

Since the early 1950s, British Columbia has contracted with the RCMP to act as our provincial police force in rural areas, and in municipalities that choose not to establish municipal police departments. The three current policing agreements, which took effect in 1992, expire on March 31, 2012. It is my understanding that the province is currently in preliminary discussions with the federal government about renewing these agreements.

It is beyond my mandate to comment on whether the province should renew its policing agreements with the RCMP. What I will say, however, is that it would be regrettable if the province entered into new agreements in 2012 with the RCMP, without the RCMP committing itself contractually to adopt and implement whatever rules, policies, and procedures respecting conducted energy weapons are applicable to provincially regulated law enforcement agencies.

Recommendation 19

I recommend that, as a precondition to the Province of British Columbia entering into new policing agreements with the RCMP in 2012, the provincial Minister of Public Safety and Solicitor General require that the RCMP (in its capacity as the provincial police force) contractually agree to comply with the rules, policies, and procedures respecting conducted energy weapons that are applicable to provincially regulated law enforcement agencies.

APPENDICES

A.	Terms of Reference	343
B.	List of Submitters	345
C.	Bibliography for Part 9: Medical Risks	349
D.	Provincial Standards for Municipal Police Departments in British Columbia	359
E.	British Columbia Law Enforcement Agencies: Comparisons of Use-of-Force and CEW Policies	363
F.	British Columbia Law Enforcement Agencies: Comparisons of CEW Training Policies and Practices	397
G.	Use of CEW by Municipal Police Agencies in British Columbia.....	457
H.	Use of CEW by the Sheriff Services in British Columbia	505
I.	Use of CEW by Provincial Corrections in British Columbia	523

APPENDIX A

THOMAS R. BRAIDWOOD, Q.C., COMMISSIONS OF INQUIRY PURPOSE AND TERMS OF REFERENCE

Definitions

- 1 In this Order:
- “Conducted energy weapon” means a weapon or device commonly referred to as a Taser®;
 - “Mr. Dziekanski” means Mr. Robert Dziekanski, who died at the Vancouver International Airport on October 14, 2007;
 - “RCMP” means the Royal Canadian Mounted Police Force continued under the *Royal Canadian Mounted Police Act (Canada)*.

Establishment of two commissions

- 2
- (1) A study commission, called the Thomas R. Braidwood, Q.C., Study Commission, is established under section 2 of the *Public Inquiry Act* to inquire into and report on the use of conducted energy weapons by the following in the performance of their duties and the exercise of their powers:
 - (a) constables of police forces of British Columbia, other than the RCMP;
 - (b) sheriffs under the *Sheriff Act*;
 - (c) authorized persons under the *Correction Act*.
 - (2) A hearing and study commission, called the Thomas R. Braidwood, Q.C., Hearing and Study Commission, is established under section 2 of the *Public Inquiry Act* to inquire into and report on the death of Mr. Dziekanski.
 - (3) Thomas R. Braidwood, Q.C., is the sole commissioner of each of the commissions established under this section.

Purposes of the commissions

- 3
- (1) The purpose of the study commission established under section 2 (1) is to make recommendations respecting the appropriate use of conducted energy weapons by constables, sheriffs and authorized persons referred to in section 2 (1), in the performance of their duties and the exercise of their powers.
 - (2) The purposes of the hearing and study commission established under section 2 (2) are as follows:

APPENDIX A

- (a) to provide Mr. Dziekanski's family and the public with a complete record of the circumstances of and relating to Mr. Dziekanski's death;
- (b) to make recommendations referred to in section 4 (2) (c).

Terms of reference

- 4 (1) The terms of reference of the inquiries to be conducted by the study commission established under section 2 (1) are as follows:
- (a) to review current rules, policies and procedures applicable to constables, sheriffs and authorized persons referred to in section 2 (1) in respect of their use of conducted energy weapons and their training and re-training in that use;
 - (b) to review research, studies, reports and evaluations respecting the safety and effectiveness of conducted energy weapons when used in policing and law enforcement in British Columbia and in other jurisdictions;
 - (c) to make recommendations respecting
 - (i) the appropriate use of conducted energy weapons by constables, sheriffs and authorized persons referred to in section 2 (1) in the performance of their duties and the exercise of their powers, and
 - (ii) the appropriate training or re-training of those constables, sheriffs and authorized persons in that use of conducted energy weapons;
 - (d) to submit a report to the Attorney General on or before June 30, 2008*.
- (2) The terms of reference of the inquiries to be conducted by the hearing and study commission under section 2 (2) are as follows:
- (a) to conduct hearings, in or near the City of Vancouver, into the circumstances of and relating to Mr. Dziekanski's death;
 - (b) to make a complete report of the events and circumstances of and relating to Mr. Dziekanski's death, not limited to the actual cause of death;
 - (c) to make recommendations the commissioner considers necessary and appropriate;
 - (d) to submit a report to the Attorney General on or before a date to be determined by the Attorney General in consultation with the Commissioner.

* Amended by OIC 882/2008 to June 30, 2009

APPENDIX B

LIST OF SUBMITTERS

- These people made a presentation during the public forums.

Submitters

Abley, Sandy

- Amnesty International Canada
- BC Association of Municipal Chiefs of Police
- BC Civil Liberties Association
- BC Medical Association
- BC Ministry of Attorney General, Court Services Branch, Sheriff Services
- BC Ministry of Public Safety & Solicitor General, BC Corrections Branch, BC Adult Custody Division
- BC Ministry of Public Safety & Solicitor General, Police Services Division
- BC Ministry of Public Safety & Solicitor General, Police Services Division, Policing and Community Safety Branch
- BC Office of the Police Complaint Commissioner
- BC Schizophrenia Society
- Beattie, Liane
- Beil, Alison
- Bozeman, Dr. William P.
- Butt, Dr. John
- Canadian Mental Health Association, BC Division
- Chambers, Dr. Keith
- Chen, Jinan
- Cisowski, Zofia
- Commission for Public Complaints Against the RCMP
- Cook County Trauma Unit
- Creba, Doug
- Crossley, Maynard
- Curry, Ken
- Davies, John
- Dawson, Robin H.

APPENDIX B

Submitters, cont'd

Dean, Vernan

- Dosanjh, Hon. Ujjal
Excited-Delirium.com (blog owner)
- Gallagher, Cathy & Joseph
Gillman, Patti
- Greater Vancouver Transportation Authority Police Service
- Hall, Dr. Christine A.
Hantiuk, Margaret
- Ho, Dr. Jeff
Huntley, David
- Janusz, Dr. Michael T.
- Kerr, Dr. Charles R.
Kohne, Horst
- Kosteckyj, Walter
Krzywiecki, Christopher
Langevin, Trevor
Lee, Buddy
- Lu, Dr. Shao-Hua
McDiarmid, Garnet L.
McDonald, Hunter
McLeod, Lorraine
Moulds, Joy E.
Moyle, Barra
- New Westminster Police Department
- Noone, Dr. Joe
Oshaneck, Lawrence A.
- Page, Jay
Palys, Ted
- Panescu, Dr. Dorin
Peet, Fred
- Povah, Errol
- Puder, Randy
- Reilly, J. Patrick
- Royal Canadian Mounted Police
Rysstad, Maggie

Submitters, cont'd

- Savard, Dr. Pierre
Slater, Kate
Slewidge, Ken
- Sloane, Dr. Christian
Spicer, Phil
- Stethem, Kenneth J.
Street Kid's Project
- Swanson, Jude
- Swerdlow, Dr. Charles
- TASER International, Inc.
- Toronto Police Service
- Tseng, Dr. Zian H.
Ussner, Maryanna
- Vallance, Dr. Maelor
- Vancouver Police Department
- Victoria Police Department
- Ward, Cameron
Watamaniuk, Mark
- Webster, Dr. John G.
- Webster, Dr. Michael
Weitz, Don
White, Natalie

APPENDIX C

BIBLIOGRAPHY FOR PART 9: MEDICAL RISKS

Amnesty International USA. "USA: Taser-Related Deaths Increasingly Frequent; Total Exceeds 150." Amnesty International USA (March 28, 2006), online: Amnesty International USA. <http://www.amnestyusa.org/document.php?lang=e&id=ENGUSA20060328001>.

"Analysis of Less-Lethal Technologies: Taser Versus Stinger." [Documents released by the U.S. Dept. of Justice in response to a request by Aaron H. Matz, Perkins Coie Brown & Bain P.A., under the Freedom of Information Act/Privacy Act]. (Ft. Meyers, FL: Florida Gulf Coast University, 2005).

Anders, S., *et al.* "Cutaneous Current Marks Due to Stun Gun Injury." [Abstract] (2003) 48:3 *J. Forensic Sci.* 640.

Barton, Antigone. "Drugs shadow taser cases." *Palm Beach Post* (August 15, 2005), online: <http://www.palmbeachpost.com/search/content/state/epaper/2005/08/14/s1aTASERDEATHS0814.htm>.

Ben-Yaakov, Schmuel. "Electrical Evaluation of the Taser M26 Stun Weapon." (Beer-Sheva, Israel: Ben-Gurion Univ. of the Negev, 2006), online: Institute for the Prevention of In-Custody Deaths. <http://www.ipcd.com/documents/12-30-06%20Israel%20Nat'l%20Police%20M26%20Paper.pdf>.

Bergen, Ryan. "Doctors Question Safety of Tasers." *National Review of Medicine*. (2007) 4:19, online: National Review of Medicine. http://www.nationalreviewofmedicine.com/issue/2007/11_15-30/4_policy_politics_19.html.

Bleetman, A., R. Steyn & C. Lee. "Introduction of the Taser into British Policing. Implications for UK Emergency Departments: An Overview of Electronic Weaponry." (2004) 21 *Emerg. Med. J.* 136.

Bouton, Katie, *et al.* "Physiological Effects of a Five Second TASER Exposure." San Diego, CA: Univ. of California, San Diego, Medical Center, Emergency Department [nd].

Bozeman, William P. & James E. Winslow. "Medical Aspects of Less Lethal Weapons." (2005) 5:1 *Internet Journal of Rescue and Disaster Medicine*, online: ISPUB.COM. http://www.ispub.com/journal/the_internet_journal_of_rescue_and_disaster_medicine/volume_5_number_1_36/article/medical_aspects_of_less_lethal_weapons.html.

Bozeman, William P., *et al.* "Injury Profile of TASER Electrical Conducted Energy Weapons (CEWs)." Winston-Salem, N.C.: Wake Forrest Univ. School of Medicine.

Bozeman, William P. "Safety and Epidemiology of Conducted Energy Weapons (CEWs)." Presented to the Braidwood Inquiry. June 2008. PowerPoint Presentation.

Bozeman, William P. "Taser Medical Safety: The State of the Science." Presentation at the University of Florida. February 2008. PowerPoint Presentation.

Bozeman, William P. [Letter to the Editor] "Withdrawal of Taser Electroshock Devices: Too Much, Too Soon." (2005) 46:3 *Ann. Emerg. Med.* 300.

Cao, Michael, *et al.* "Taser-Induced Ventricular Myocardial Capture Demonstrated by Pacemaker Intracardiac Electrograms." (2007) 18(8) *J. Cardiovasc. Electrophysiol.* 876.

Chambers, Keith. Letter to the Braidwood Inquiry (July 4, 2008) in response to a request for his opinion of William P. Bozeman's PowerPoint Presentation to the Inquiry [unpublished].

Chung, Andrew. "Are Tasers behind custody deaths? Numbers fluctuate but Canadian data suggest the real cause may be 'excited delirium.'" *Toronto Star* (December 9, 2007), online: <http://www.thestar.com/article/283863>.

Dawes, Ronald, *et al.* "The Effect of the eXtended Range Electronic Projectile (XREP) on Breathing." Presented at the Australasian College for Emergency Medicine Winter Symposium 2008 [unpublished], online: TASER news release, July 3, 2008. <http://phx.corporate-ir.net/phoenix.zhtml?c=129937&p=irol-newsArticle&ID=1171811&highlight=>.

Dawes, D.M., *et al.* "15-Second Conducted Energy Weapon Exposure Does Not Cause Core Temperature Elevation in Non-Environmentally Stressed Resting Adults." 176(2-3) *Forensic Sci. Intl.* 253.

Dawes, D.M., *et al.* "Neuroendocrine Effects of TASER X26 Conducted Energy Weapon as Compared to Oleoresin Capsicum." (2007) 50:3 *Annals. Emerg. Med. Suppl.* S132.

Dennis, Andrew J., *et al.* "Acute Effects of TASER X26 Discharges in a Swine Model." (2007) 63:3 *J. TRAUMA Injury Infection and Critical Care* 581.

Dorian, Paul & Kumaraswamy Nanthakumar. [Letter to the Editor] "Reply" (2007) 49:6 *JACC* 732.

Ely, Susan F. & Charles S. Hirsch. "Asphyxial Deaths and Petechiae: A Review." (2000) 45:6 *J. Forensic Sci.* 1274.

"'Excited Delirium' case raises taser questions." *Canadian Press* (March 11, 2007), online: http://www.ctv.ca/servlet/ArticleNews/story/CTVNews/20070311/excited_delerium_070311?s_name=budget2007&no_ads.

Farkas, Karen. "Summit judge rules Tasers not a factor in three deaths." *Metro* (May 2, 2008), online: http://blog.cleveland.com/metro/2008/05/summit_judge_rules_tasers_not.html.

Fineschi, Vittorio, *et al.* "Electric Shock: Cardiac Effects Relative to Non-Fatal Injuries and Post-Mortem Findings in Fatal Cases." (2005) 111 *Intl. J. Cardiol.* 6.

Fish, Raymond M. & Leslie A. Geddes. "Effects of Stun Guns and Tasers." (2001) 358 *Lancet* 687.

Frechette, Alan & Mary Ellen Rimsza. "Stun Gun Injury: A New Presentation of the Battered Child Syndrome." (1992) 89:5 *Pediatrics* 898.

Grainger, Peter. "Taser guns not tested by police: CTV finds." *CTV British Columbia* (May 5, 2008), online: http://www.ctvbc.ctv.ca/servlet/an/local/CTVNews/20080505/BC_Taser_Testing_080505?hub=BritishColumbiaHome.

Haegeli, Laurent M., *et al.* "Effect of a Taser Shot to the Chest of a Patient with an Implantable Defibrillator." (2006) 3:3 *Heart Rhythm* 339.

Ho, Jeffrey D., *et al.* "Absence of Electrocardiographic Change Following Prolonged Application of Conducted Energy Weapon in Physically Exhausted Adults." [Abstract] (2007) 14:5 *Acad. Emerg. Med. Suppl.* 1: 322.

Ho, Jeffrey D., *et al.* "Absence of Electrocardiographic Effects Following Taser Device Application in Human Volunteers." Fort Lauderdale, FL: Dept of Emergency Medicine, Hennepin County Med. Center [nd].

Ho, Jeffrey D., *et al.* "Cardiovascular and Physiologic Effects of Conducted Energy Weapon Discharge in Resting Adults." (2006) 13:6 *Acad. Emerg. Med.* 589.

Ho, Jeffrey D., *et al.*, "Echocardiographic Determination of Cardiac Rhythm During Trans-Thoracic Wireless Conducted Electrical Weapon Exposure" [poster] presented at the American College of Emergency Physicians Scientific Assembly, 2008, Chicago, Illinois, online: http://www.ipicd.com/docs/ACEP_08_HO_ECHO.jpg.

Ho, Jeffrey D., *et al.* "Echocardiographic Evaluation of Human Transcutaneous TASER Application Along the Cardiac Axis" [poster] presented at the Heart Rhythm Society, 29th Ann. Meeting, May 2008, online: <http://www.taser.com/research/Science/Documents/Ho%20Echo%20Eval%20HRS%202008.pdf>.

Ho, Jeffrey D., *et al.* "Impact of CEW in a Mentally Ill Population: A Brief Report." (2007) 25 *Am. J. Emerg. Med.* 780.

Ho, Jeffrey D., *et al.* "Physiologic Effects of Prolonged Conducted Energy Weapon Discharge on Acidotic Adults." (2007) 14:5 *Acad. Emerg. Med. Suppl.* 1: 148.

Ho, Jeffrey D., *et al.* "Respiratory Effect of Prolonged Electrical Weapon Application on Human Volunteers." (2007) 14:3 *Acad. Emerg. Med.* 197.

Holden, S.J., *et al.* "Electromagnetic Modelling of Current Flow in the Heart from Taser Devices and the Risk of Cardiac Dysrhythmias." (2007) 52 *Phys. Med. Biol.* 7193.

Hood, I., D. Ryan & W.U. Spitz. "Resuscitation and Petechiae." [Abstract] (1988) 9(1) *Am. J. Forensic Med. Pathol.* 35.

- Ikeda, Noriaki, Akira Harada, & Tsuneo Suzuki. "Homicidal Manual Strangulation and Multiple Stun-Gun Injuries." (1992) 13:4 *Am. J. Forensic Med. Pathol.* 320.
- Jauchem, James R., *et al.* "Acidosis, Lactate, Electrolytes, Muscle Enzymes, and Other Factors in the Blood of *Sus Scrofa* Following Repeated TASER Exposures." (2006) 161 *Forensic Science Intl.* 20.
- Jauchem, James R. "Blood Factors of *Sus Scrofa* Following a Series of Three TASER Electronic Control Device Exposures." (2008) 175 *Forensic Science Intl.* 166.
- Jenkinson, Emma, Clare Neeson, & Anthony Bleetman. "The Relative Risk of Police Use-of-Force Options: Evaluating the Potential for Deployment of Electronic Weaponry." (2006) 13 *J. Clin. Forensic Med.* 229.
- Jensen, Peter Jorn, *et al.* "Electrical Injury Causing Ventricular Arrhythmias." (1987) 57 *Br. Heart J.* 279.
- Kedir, Shaun H. "Stunning Trends in Shocking Crimes: A Comprehensive Analysis of Taser Weapons." (2006-07) 20:2 *J. Health & Law* 20: 357.
- Kenny, John M., *et al.* "Human Effects Advisory Panel Report of Findings: Sticky Shocker Assessment." (State College, PA: Penn State Univ., Applied Research Laboratory, 1999), online: TASER. <http://www.taser.com/Search/Results.aspx?k=john%20kenny>.
- Kim, Paul J. & and Wayne H. Franklin. [Letter to the Editor] "Ventricular Fibrillation after Stun-Gun Discharge." (2005) 353:9 *N. Engl. J. Med.* 958.
- Kinney, Thomas, J. "Myocardial Infarction Following Electrical Injury." (1982) 11 *Ann. Emerg. Med.* 622.
- Kloner, R.A., *et al.* "Effects of Acute and Chronic Cocaine Use on the Heart." (1992) 85:2 *Circulation* 407.
- Koscove, Eric. "The Taser Weapon: A New Emergency Medicine Problem." (1985) 14:12 *Ann. Emerg. Med.* 1205.
- Kroll, Mark W. "Crafting the Perfect Shock." (2007) *IEEE Spectrum*, online: [ieee spectrum. http://spectrum.ieee.org/dec07/5731/2](http://spectrum.ieee.org/dec07/5731/2).
- Kroll, Mark W., *et al.* [Letter to the Editor] "Electronic Control Devices." (2008) 179(4) *CMAJ* 342.
- Kroll, Mark W., Hugh Calkins & Richard M. Luceri. [Letter to the Editor] "Electronic Control Devices and the Clinical Milieu." (2007) 49:6 *JACC* 732.
- Lakkireddy, Dhanunjaya R., *et al.* "Can Electrical-Conductive Weapons (Taser) Alter Functional Integrity of Pacemakers and Defibrillators and Cause Rapid Myocardial Capture?" [Abstract] Heart Rhythm Society, 29th Annual Meeting, May 2008 [unpublished], online: http://www.abstracts2view.com/hrs/view.php?nu=HRS08L_6517.

Lakkireddy, Dhanunjaya R., *et al.* "Cardiac Effects of Electrical Stun Guns: Does Position of the Barbs Contact Make Any Difference?" [Abstract] (2008) 31:4 *PACE* 398.

Lakkireddy, Dhanunjaya R., *et al.* "Cardiovascular Safety Profile of Electrical Stun Guns (TASER): Impact of Point of Delivery on Ventricular Fibrillation Thresholds." (2006) online: <http://www2.taser.com/research/Documents/Lakkiereddy%20Cleveland%20Clinic%20VF%20Threshold%20Barb%20Location.pdf>.

Lakkireddy, Dhanunjaya R., *et al.* "Do Electrical Stun Guns (TASER-X26) Affect the Functional Integrity of Implantable Pacemakers and Defibrillators?" (2007) 9:7 *Europace* 551, online: Eurospace. <http://europace.oxfordjournals.org/cgi/reprint/eum058?ijkey=v5zONNAwEzrMZP5&keytype=ref>.

Lakkireddy, Dhanunjaya R., *et al.* "Effects of Cocaine Intoxication on the Threshold for Stun Gun Induction of Ventricular Fibrillation." (2006) 48:4 *J. Am. Coll. Cardiol.* 468.

Layton, Julia. "Are people in police custody dying of excited delirium?" *howstuffworks* (February 28, 2007), online: [howstuffworks. http://people.howstuffworks.com/excited-delirium.htm](http://people.howstuffworks.com/excited-delirium.htm).

Leibovici, D., J. Shemer & S.C. Shapira. (1995) "Electric Injuries: Current Concepts." 26:9 *Injury* 623.

Levine, Saul D., *et al.* "Cardiac Monitoring of Human Subjects Exposed to the Taser." (2007) 33:2 *J. Emerg. Med.* 113.

Lovell, F. Warren. "Stun Gun and Taser: Are They Always Safe?" [Abstract] (1999) 6:3 *J. of Clinical Forensic Med.* 199.

McBride, Dennis K. and Natalie B. Tedder. (2005) *Efficacy and Safety of Electrical Stun Devices: A Potomac Institute for Policy Studies Report*. Online: Potomac Institute for Policy Studies. http://www.potomacinstitute.org/research/Stun%20Devices%20Report_FINAL.pdf.

McDaniel, Wayne C., *et al.* "Cardiac Safety of Neuromuscular Incapacitating Defensive Devices." (2005) *PACE* 28 (Suppl. 1): S284.

Maier, Andrew, *et al.* *Human Effectiveness and Risk Characterization of the Electromuscular Incapacitation Device—A Limited Analysis of the TASER: Part I—Technical Report*. Virginia, M.L.: Joint Non-Lethal Weapons Human Effects Center of Excellence (2005).

Marine, Joseph E. "Stun Guns: A New Source of Electromagnetic Interference for Implanted Cardiac Devices." (2006) 3(3) *Heart Rhythm* 342.

Mehl, Lewis E. "Electrical Injury From Taser and Miscarriage." (1992) 71 *Acta Obstet. Gynecol. Scand.* 118.

Micheli, Frederico, *et al.* "Delayed Onset Limb Dystonia Following Electric Injury." (1998) 4 *Parkinsonism and Related Disorders* 39.

Miller, Charlie D. [Letter to the Editor] "Re: Acidosis, Lactate, Electrolytes, Muscle Enzymes, and Other Factors in the Blood of *Sus Scrofa* Following Repeated TASER Exposures." (2007) 168 *Forensic Sci. Intl.* e17.

Mukasey, Michel B., Jeffrey L. Sedgwick & David W. Hagy. *Study of Deaths Following Electromuscular Disruption: Interim Report*. (Washington, DC: U.S. Dept. of Justice, National Institute of Justice, 2008).

Nanthakumar, Kumaraswamy, *et al.* "Cardiac Electrophysiological Consequences of Neuromuscular incapacitating Device Discharges." (2006) 48:4 *J. Am. Coll. Cardiol.* 798.

Nanthakumar, Kumaraswamy, *et al.* "Cardiac Stimulation with High Voltage Discharge From Stun Guns." (2008) 178:11 *CMAJ* 1451.

Ng, Weng & Mark Chehade. "Taser Penetrating Ocular Injury." (2005) 139:4 *Am J. Ophthalmol.* 713.

Norton, R.L. & G. Granger. "Evaluation of the Use of TASER and Elevate Force to Control Workplace Violence in a Health Care Environment." [Abstract] (2007) 50:3 *Ann. Emerg. Med.* S135.

O'Brien, Anthony J. [Letter to the Editor] "Conflict of Interest in Research." (2008) 26 *Am. J. Emerg. Med.* 504.

O'Brien, Daniel J. "Electronic Weaponry—A Question of Safety." [Abstract] (1991) 20:5 *Ann. Emerg. Med.* 583 and 20:9 *Ann. Emerg. Med.* 1031 [Erratum].

Odell, Morris. "The Human Body as an Electric Circuit." (1997) 4 *J. Clin Forensic Med.* 1.

Ordog, Gary J., *et al.* "Electronic Gun (Taser) Injuries." (1987) 16:1 *Ann. Emerg. Med.* 73.

Panescu, D., *et al.* "Finite Element Modelling of Electric Field Effects of TASER Devices on Nerve and Muscle." [Abstract] in *Proc. 28th IEEE EMBS Annual Intl Conference (2006) IEEE Engineering in Medicine & Biology Society*, (N.Y., Aug. 30-Sept. 3, 2006) 1277.

Pidgeon, K.C., Sally Bragg & Kathleen Ball, *et al.* "Uncommon Cause of Death: The Use of Taser Guns in South Florida." (2008) 34:4 *J. Emerg. Nursing* 305.

Pippin, John J. [Letter to the Editor] "Taser Research in Pigs Not Helpful." (2007) 49:6 *JACC* 731.

Pollanen, Michael S., *et al.* "Unexpected Death Related to Restraint for Excited Delirium: A Retrospective Study of Deaths in Police Custody and in the Community." (1998) 158:12 *CMAJ* 1603.

Rahko, Peter S. "Evaluation of the Skin-to-Heart Distance in the Standing Adult by 2-Dimensional Echocardiography." (2008) 21:6 *J. Am. Soc. Echocardiogr.* 761.

- Rao, V.J. and C.V. Wetli. "The Forensic Significance of Conjunctival Petechiae." [Abstract] (1998) 9:1 *Am. J. Forensic Med. Pathol.* 32.
- Rehman, Tausif-Ur, Howard Jonas & Jonathan Marinaro. "Intracranial Penetration of a TASER Dart." (2007) 25 *Am. J. Emerg. Med.* 733.e3.
- Richards, Kyle A., L. Peter Kleuser & Jeffrey Kluger. "Fortuitous Therapeutic Effect of a Taser Shock for a Patient in Atrial Fibrillation." (2008) *Ann. Emerg. Med.* 2(6) 686.
- Robinson, N.M.K. & D.A. Chamberlain. "Electrical Injury to the Heart May Cause Long-Term Damage to Conducting Tissue: A Hypothesis and Review of the Literature." (1996) 53 *Intl. J. Cardiol.* 273.
- Ruggieri, James Angelo. "Forensic Engineering Analysis of Electro-Shock Weapon Safety." (2005) 22:2 *J. National Academy of Forensic Engineers* 19.
- Ruggieri, James Angelo. "Lethality of Taser Weapons." (2005) *Am. Acad. of Forensic Engineers (AAFS) abstract proceedings*, Feb. 25, 2005, online: A Collection of Articles Related to TASERS and Other "Stun" Devices. <http://www.charlydmiller.com/LIB07/2006TaserCollection.html#2006Pigs>.
- Sadhu, Srikanth, Sergio Leal, & Caesar Herrera, *et al.* "Ventricular Fibrillation and Death after Taser Injury." [Abstract] (2006) 3:5 *Heart Rhythm Suppl.* 1: S72.
- Sanford, Janyce M., *et al.* "Two Patients Subdued with a taser® Device: Cases and Review of Complications." (2008) *J. Emerg. Med.* 1, online: http://www.ncbi.nlm.nih.gov/pubmed/18439781?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum.
- Schmiederer, Bert, *et al.* "Specific Traces in Stun Gun Deployment." (2005) 119 *Int. J. Legal Med.* 207.
- Seth, Rajeev K., *et al.* "Cataract Injury Secondary to Electrical Shock from a Taser Gun." [Abstract] (2007) 33:9 *J. Cataract Refract. Surg.* 1664.
- Sloane, Christian, Theodore C. Chan & Gary M. Vilke. "Thoracic Spine Compression Fracture After Taser Activation." (2008) 34:3 *J. Emerg. Med.* 283.
- Spencer, B.L. "Psychological Disorders Resulting from Electrical Shock." [Abstract] (1944) 6 *Psychol. Bull.* 377.
- Stanbrook, Matthew B. "Tasers in Medicine: An Irreverent Call for Proposals." (2008) 178(11) *CMAJ* 1401.
- Strote, Jared & H. Range Hutson. "Taser Use in Restraint-Related Deaths." (2006) 10:4 *Prehosp. Emerg. Care* 447.
- Sullivan, Laura. "Death by Excited Delirium; diagnosis or cover-up?" NPR (April 24, 2008), online: <http://www.npr.org/templates/story/story.php?storyId=7608386>.

- Sun, Hongyu & John G. Webster. "Estimating Neuromuscular Stimulation within the Human Torso with Taser Stimulus." (2007) 52 *Phys. Med. Biol.* 6401.
- Sungur, Murat & Muhammed Guven. [Letter to the Editor] "Rhabdomyolysis Caused by Electric Injury." (2001) 20:2 *J. Emerg. Med.* 1995.
- Swerdlow, Charles, *et al.* "Presenting Rhythm in Sudden Custodial Deaths After Use of TASER Electronic Control Device." [Abstract AB22-1] presented at the Heart Rhythm Society 29th Annual Meeting, May 2008 [unpublished].
- Tchou, Patrick J. "Finding the Edge of Heart Safety." (2007) *IEEE Spectrum*, online: [ieee spectrum online. http://spectrum.ieee.org/dec07/5731/3](http://spectrum.ieee.org/dec07/5731/3).
- Tchou, Patrick J. [Letter to the Editor] "Reply" (2007) 49:6 *JACC* 733.
- Theodore, Terri. "Inquiry becomes lightning rod for complaints of taser abuse." *The Canadian Press* (June 4, 2008).
- Truscott, Amanda. "A Knee in the Neck of Excited Delirium." (2008) *CMAJ* 178(6): 669.
- Turner, Matthew S. & Mary I. Jumbelic. "Stun Gun Injuries in the Abuse and Death of a Seven-Month-Old Infant." [Abstract] (2003) 48:1 *J. Forensic Sci.* 180.
- U.K. Police Scientific Development Branch of the Home Office. "Appendix D— 'Medical Implications of the Use of the M26 Taser—The Effects of Drugs of Abuse on the Cardiac Action Potential in Sheep Isolated Purkinje Fibres' [Supplement to HOSDB Evaluations of Taser Devices]." London, U.K.: HOSDB (2004).
- Valentino, Daniel J., *et al.* "Neuromuscular Effects of Stun Gun Devices." (2007) *J. Surg. Research* 143: 78.
- Vilke, Gary M., *et al.* "Physiological Effects of a Conducted Energy Weapon on Human Subjects." (2007) 50:5 *Ann. Emerg. Med.* 569.
- Vilke, Gary M., *et al.* "Twelve-Lead Electrocardiogram Monitoring of Subjects Before and After Voluntary Exposure to the Taser X26." (2008) 26 *Am. J. Emerg. Med.* 1.
- Walters, Tom. "Taser International Suffers Rare Court Loss." *CTV News* (June 6, 2008) online: [CTV News http://winnipeg.ctv.ca/servlet/an/local/CTVNews/20080610/taser_lawsuit_080610?hub=WinnipegHome](http://winnipeg.ctv.ca/servlet/an/local/CTVNews/20080610/taser_lawsuit_080610?hub=WinnipegHome).
- Wang, Richard Y. "pH-Dependent Cocaine-Induced Cardiotoxicity." (1998) 17:4 *Am. J. Emerg. Med.* 364.
- Welsh, James. "Electroshock Torture and the Spread of Stun Technology." (1997) *Lancet* 349: 1.

Winslow, James E., *et al.* "Thoracic Compression Fractures as a Result of Shock from a Conducted Energy Weapon: A Case Report." (2007) 50:5 *Ann. Emerg. Med.* 584.

Wu, Jiun-Yan, *et al.* "Taser Dart-to-Heart Distance That Causes Ventricular Fibrillation in Pigs." (2007) 54:3 *IEEE Transactions on Biomed. Engineering* 503.

Zylich, Neil P. "Taser Evaluation and Analysis." [Unpublished. Report made to the US Consumer Product Safety Commission, during period when TASERS were under CPSC jurisdiction, Feb. 1976.]

APPENDIX D

PROVINCIAL STANDARDS FOR MUNICIPAL POLICE DEPARTMENTS IN BRITISH COLUMBIA

This matrix indicates whether or not the policies written by various law enforcement agencies fulfill the requirements established by the Provincial Standards for Municipal Police Departments in British Columbia (the “Standards”).

When interpreting this matrix, there are a number of important cautions that must be kept in mind.

1. Some agencies have adopted a verbatim wording of the Standards in their policies, while others have not. Thus, in some agencies it is indisputable that a particular standard has been incorporated into policy given the common language in both the policy and the Standards. However, when an agency has not adopted the same language as contained within the Standards, achievement of that standard is subject to interpretation, and it may be open to debate whether or not a particular standard has been satisfied in policy. If the matrix indicates that a particular standard has been achieved by an agency, the agency either contains the Standard verbatim, or contains provisions that articulate (substantially, if not precisely) the requirements contained within the Standard.
2. A number of the Standards are very generally worded. (For instance, “Written policy governs the use and control of weapons and ammunition issued by the department.”) Thus, policies have satisfied this Standard in a number of very different ways which vary significantly in detail. Simply satisfying a Standard does not necessarily indicate how comprehensively that Standard has been satisfied.

APPENDIX D

3. The Braidwood Commission has been provided with general use-of-force policies and, in some instances, specific conducted energy weapons policies. However, policy provisions specifically related to other types of force (such as vascular neck restraint) have not been submitted to the Commission; thus, in some instances it is unclear if an agency satisfies the Standards that relate to these force options.

Information displayed in this matrix is based on information received by the Braidwood Commissions of Inquiry as of July 31, 2008.

PROVINCIAL STANDARDS FOR MUNICIPAL POLICE DEPARTMENTS IN BRITISH COLUMBIA

		Municipal Police Forces														Other Agencies		
		Abbotsford	Central Saanich	Delta	GVTA	K'itlasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Vancouver	Victoria	West Vancouver	Corrections	RCMP	Sheriffs
Part	Standard																	
A1.2.1	Written policy recognizes that the authority for the use of force is found in the <i>Criminal Code</i> .	/	/	/	/		/	/	/	/	/	/	/	/	/	/	? ⁶	
A1.2.2	Written policy governs discharge of warning shots. ¹	/		/	/			/	/		/	? ⁶	/	/	/		? ⁶	
A1.2.3	Written policy governs the carrying of firearms, ammunition, and other weapons while off duty.		/	/	/		/	/	/	/	/	/		/	/		? ⁶	
A1.2.4	Written policy governs the use and control of weapons and ammunition issued by the department (note: includes weapons other than firearms). ²	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
A1.2.5	Written policy establishes procedures for firearms and weapons inspections, and replacement of ammunition.	/	/	/	/	/	/	/	/	/	/	/			/	/	/	/
A1.2.6	Written policy requires that only officer trained and demonstrating proficiency in the use of department authorized firearms or weapons be carry and use such firearms or weapons (note: intended to cover use of any weapon).	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
A1.2.7	Written policy requires each officer to qualify at least annually with any firearm or other weapon that the officer is authorized to use (note: policy should also describe the qualifications required). ³						/	/	/	/	/	/					? ⁶	
A1.2.8	Written policy requires that only firearms, ammunition, and other weapons authorized by the Chief Constable be used in the performance of duty.		/	/			/	/	/	/	/	/		/		/	? ⁶	
A1.2.9	Written policy requires that a written report be submitted whenever an officer, or other employee:																? ⁶	
	• Takes action that results in injury or death of another person, including the officer or any other officer.	/	/	/	/		/		/	/	/	/	/	/	/	/	? ⁶	
	• Applies force through the use of a weapon.	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	
	• Discharges a firearm other than in training.	/	/	/			/		/	/	/	/	/	/	/	/	? ⁶	
	• Applies force by any means, other than routine handcuffing or low levels of restraint.	/	/	/			/		/	/	/	/		/	/	/	? ⁶	
A1.2.10	Written policy includes procedures for reviewing incidents in which an officer applies force by means of a weapon or firearm, lateral neck restraint, or the application of force, by any means, other than routine handcuffing or low-level restraint and compliance. ⁴	/	/	/	/		/	/	/	/	/	/	/	/	/		? ⁶	
A1.2.11	Written policy establishes criteria concerning the assignment of an officer whose use of force results in a death or grievous bodily harm. ⁵	/	/	/	/		/	/	/	/	/	/					/	

PROVINCIAL STANDARDS FOR MUNICIPAL POLICE DEPARTMENTS IN BRITISH COLUMBIA

		Municipal Police Forces														Other Agencies		
		Abbotsford	Central Saanich	Delta	GVTA	K'tlasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Vancouver	Victoria	West Vancouver	Corrections	RCMP	Sheriffs
Part	Standard																	
A1.2.12	Written policy requires that only officers trained and demonstrating proficiency in applying the lateral neck restraint are authorized to apply this technique.	/	/	/		? ⁶	/	/	/	/	/	/	/	/	/		? ⁶	? ⁶
A1.2.13	Written policy requires each officer authorized to apply the lateral neck restraint, to qualify at least annually in applying this technique.		/	/		? ⁶	/	/	/	/	/	/	? ⁶				? ⁶	? ⁶

Source: Police Services Division, Ministry of Public Safety and Solicitor General, Victoria, BC.

1 In the context of CEWs, warning shots may consist of CEW "sparking." However, the legislative requirement may not have intended that this provision apply to CEWs.

Thus, most policies may contain provisions related to warning shots from firearms, but none contain provisions related to "warning shots" from CEWs.

2 This is a very general provision that is easily satisfied in policy by widely divergent provisions.

3 Some jurisdictions specify re-certification periods longer than one year. No agencies list qualification standards in policy, though Nelson policy refers to (but does not list) the standards established by the Provincial Use of Force Coordinator.

4 The checkmarked agencies require review in these circumstances, but policy is not always explicit as to the procedures to be followed during a review, and provisions related to review vary between agencies.

5 Policies do not establish this criteria, but simply note that reassignment will be based on "established criteria."

6 Provision may be contained in another departmental policy that the Braidwood Commission has not received (the Commission was only provided with conducted energy weapons policies).

APPENDIX E

BRITISH COLUMBIA LAW ENFORCEMENT AGENCIES COMPARISONS OF USE-OF-FORCE AND CEW POLICIES TABLE OF CONTENTS

	Page
1. POLICIES FOR CEW USE.....	365
2. CIRCUMSTANCES IN WHICH CEW DEPLOYMENT IS PROHIBITED.....	369
3. STEPS PRIOR TO CEW DEPLOYMENT.....	370
4. STEPS DURING CEW DEPLOYMENT.....	372
5. PROTOCOL FOR MULTIPLE OR PROLONGED DEPLOYMENT.....	373
6. STEPS FOLLOWING CEW DEPLOYMENT—MEDICAL.....	375
7. STEPS FOLLOWING CEW DEPLOYMENT—PROCEDURAL.....	378
8. VIDEO AND PHOTOGRAPHIC DOCUMENTATION.....	381
9. REPORTING PROTOCOLS AND REVIEW.....	382
10. EXCITED DELIRIUM.....	387
11. CEW DEFINITIONS.....	389
12. LEGAL AND ORGANIZATIONAL AUTHORITY FOR CEW USE (INCLUDING TRAINING).....	390
13. CEW ISSUING, MAINTENANCE, AND STORAGE.....	392
14. CEW HANDLING.....	394
15. VOLUNTARY EXPOSURE.....	395
16. DATA DOWNLOADING.....	396

<p>Information displayed in these matrices is based on information received by the Braidwood Commissions of Inquiry as of February 3, 2009.</p>

COMPARISONS OF USE-OF-FORCE AND CEW POLICIES

1. POLICIES FOR CEW USE																
	Municipal Police Forces													Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New Westminster	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Vancouver	Corrections	Previous RCMP
Determining the appropriate use-of-force measure to apply																
Verbal communication without the use of force is to be the preferred method of interaction.	/	/					/		/				/			
Members are authorized to use approved non-deadly-force techniques and issued equipment for resolution of incidents to bring an unlawful situation safely and effectively under control.		/	/		/	/		/	/	/			/	/		
The CEW is an option to be used in conjunction with a firearm and as an alternative to deadly force, where reasonable and appropriate to do so.						/							/	/		
CEWs are not an alternative to lethal force, but rather can be used in conjunction with lethal force where reasonable and appropriate to do so.		/				/	/		/				/	/		
Police officers will use only that force which is reasonably necessary to effectively and safely bring an incident under control while protecting the life of the officer or another.			/		/	/	/	/	/	/				/		
Any force used by an officer to control another person must be reasonable and justifiable.		/				/			/				/			
Police response is governed by the National Use-of-Force Model.	/	/			/						/		/			
A person's actions will govern the appropriate response by officers in accordance with the Department's Use-of-Force Framework Model.							/		/							
A member need not be physically attacked before taking pre-emptive physical measures. Pre-assault cues such as aggressive body language, facial expression, posture, proximity, stance, muscle tension, verbal threats, and non-compliance with commands are all factors which may justify officer use of force.					/					/						
Members are authorized to use approved non-deadly-force techniques and issued equipment for resolution of incidents to protect themselves or others from physical harm.		/	/			/		/	/				/			
Any force used by an officer should be determined by the actions or lack of compliance by the subject.		/				/			/							
In making an arrest, an officer will use only such force as is reasonably necessary to secure and detain the offender.									/							
An officer should select the appropriate force option that is judged to be the least violent to safely gain control over the subject.		/	/													

COMPARISONS OF USE-OF-FORCE AND CEW POLICIES

1. POLICIES FOR CEW USE														
	Municipal Police Forces												Other Agencies	
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New Westminster	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Vancouver
In Canada, the courts have allowed police officers to use a higher level of force than that which they face, commonly known as the "One Plus Theory". As such, a member is justified in escalating to a level of force considered to be one higher than that of an offender he or she is attempting to control. This is acknowledgement that public safety and the safety of the officer must be considered ahead of that of the offender. Situational dynamics are such that no attempt each and every "level" of force before proceeding to the next level. Lower levels must be deemed ineffective or inappropriate by members, thus justifying escalation. CEWs have been approved for use to assist in prisoner management, primarily in cells and prisoner transport.					✓					✓				✓
The following considerations may be a factor in the choice of force options: <ul style="list-style-type: none"> • time and distance • multiple subjects • abilities comparison • demonstrated threat • special knowledge • situational environment 		✓	✓		✓	✓		✓	✓					
Corrections officers may use a reasonable degree of force to prevent injury or death, prevent property damage, prevent an inmate from escaping, or to maintain custody and control of an inmate.													✓	
Force used by officers to carry out a lawful duty is proportional to the risk presented.													✓	
Factors to consider when determining reasonableness of use of force, including whether the officer was acting in good faith, will include: <ul style="list-style-type: none"> • subject factors: age, size, gender, skills or perceived skills, multiple subjects, weapons, pre-assaultive signs, mentality; • officer factors: size, age, gender, skill level/physical abilities, exhaustion, injury, ground fighting, perception of threat, imminent danger of death or serious bodily injury, position, time, distance, proximity to weapon, tactical withdrawal possibility/disengagement; • environmental factors: friendly/hostile territory, availability of cover, proximity of back-up, terrain (footing), weather (effectiveness of a force option), lighting (ability to see). 						✓	✓	✓	✓			✓		

COMPARISONS OF USE-OF-FORCE AND CEW POLICIES

1. POLICIES FOR CEW USE																
	Municipal Police Forces													Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitsao	Nelson	New Westminster	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Vancouver	Corrections	Previous RCMP
Behavioural grounds warranting CEW use																
Combative or non-compliant individual poses a risk of bodily harm to the public or the police.	/						/									
Individual displays active resistance or beyond and the member assesses a threat to officer or public safety on the totality of the circumstances encountered.																/
Individual displays active resistance or beyond.		/		/							/		/		/	/
Subject to situational factors, where persons are displaying active resistance (<i>i.e.</i> , resisting an officer's lawful efforts to take them into custody, without attacking the officer), and an officer reasonably believes the use of a CEW is appropriate and reasonable, an officer may use the push-stun mode, thereby obtaining compliance from the person.							/		/							
Where an officer is confronted, or reasonably believes that they will be confronted, by a person who is offering assaultive resistance, or who poses a threat of serious bodily harm or death to themselves, the police, or to others, an officer may use the CEW in either the push-stun mode or probe mode.							/		/				/			
A CEW shall only be used on subjects who need to be immediately controlled and the member reasonably believes will be actively aggressive/assaultive toward police or others.			/		/								/		/	
A CEW may only be used where the officer perceives that an inmate has intent and means to cause immediate and serious harm to the officer or others; or where an inmate is attempting to escape.														/		
A CEW may be deployed by a qualified member to gain physical control of a suicidal subject.											/					
A CEW may be deployed by a qualified member to gain physical control of a violent subject.											/					
A CEW may be deployed by a qualified member to gain physical control of a potentially violent subject.											/					
The CEW shall only be deployed on subjects whom a member has reasonable and probable grounds to believe are a danger to themselves or others.			/		/	/							/			
CEW technology is an effective option for incapacitating individuals injurious to themselves.														/		
CEW technology is an effective option for incapacitating individuals under the influence of drugs or alcohol.														/		
CEW technology is an effective option for incapacitating individuals being destructive.														/		

COMPARISONS OF USE-OF-FORCE AND CEW POLICIES

1. POLICIES FOR CEW USE														
	Municipal Police Forces												Other Agencies	
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New Westminster	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Vancouver
<p>A CEW device is deployed:</p> <ul style="list-style-type: none"> • in tactical operations; • in a cell entry and extraction; • in response to an escape or escape attempt; • for external prowling, when inmates are in a secure outside yard; and • as approved by the warden or designate when intervention is required to: <ul style="list-style-type: none"> • prevent self-harm; • compel compliance; • terminate violent and destructive behaviour; • protect safety of staff and inmates; and • when less use of force is inappropriate or unreasonable. 														
Other contextual circumstances to consider in determining if CEW use is appropriate														
The reasonableness of any CEW use will always be determined by the situational factors and use-of-force protocol.							/		/					
CEW use allowed only when lower force options were ineffective or inappropriate.	/		/			/		/		/	/	/	/	/
<p>Where the use of approved CEWs is judged by an officer to be an appropriate method of control, it may be deployed, having first given consideration to the</p> <ul style="list-style-type: none"> • the requisite time and distance are present; • the subject is reasonably contained and officer/public safety is not compromised; • the officer and/or the subject are not located in flammable or combustible environments. 					/									
Use of CEWs to immobilize a physically aggressive or non-compliant inmate is reserved for situations in which the officer perceives that the inmate has the intent cause immediate and serious harm to the officer or others or when an inmate is attempting to escape.													/	

COMPARISONS OF USE-OF-FORCE AND CEW POLICIES

2. CIRCUMSTANCES IN WHICH CEW DEPLOYMENT IS PROHIBITED																
	Municipal Police Forces													Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New Westminster	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Vancouver	Corrections	Previous RCMP
General prohibitions																
Controlled stun shall not be used for pain compliance purposes only.		/														
As a replacement for a firearm in a deadly force encounter.		/				/		/		/						
Against those demonstrating passive resistance.				/			/		/						/	
In a punitive manner.		/					/		/							
In a criminal manner.							/		/							
In a coercive manner.		/					/		/							
Specific prohibitions																
Not to be used when flammable liquids are present.	/	/			/											
Not to be used on children.		/														
Not to be used on the elderly.		/														
Not to be used on pregnant women.		/														
Not to be used on the physically disabled.		/														
Not to be used on a handcuffed or restrained prisoner (unless behaviour cannot be controlled otherwise).		/														/
Not to be used if subject's fall could result in death or grievous bodily harm.		/														
Not to target neck, head, or genitalia.		/			/											
Not to target head or face.		/			/			/								
Not to be used directly against skin without a deployed cartridge attached.		/														
Not to be used to obtain fingerprints.					/					/						
Avoid use at very low temperatures (below -20 or -30°C).				/											/	/
Passive resistant behaviour is the lowest level of resistance. The person resists control through passive physical actions or verbal refusal in response to lawful commands. This level of resistance can be in the form of dead-weight posture intended to make the officer lift, pull, drag, or push the person to maintain control, <i>e.g.</i> , the person is sitting handcuffed and refusing to get up or get into the back of a police vehicle without the person struggling defensively. It is not appropriate to use the CEW in this type of situation.				/											/	? ¹

COMPARISONS OF USE-OF-FORCE AND CEW POLICIES

3. STEPS PRIOR TO CEW DEPLOYMENT														
	Municipal Police Forces											Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New Westminster	Oak Bay	Port Moody	Saanich	Stittimx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Vancouver
Procedure before deployment														
Where time and circumstances permit, a supervisor is to be advised prior to the deployment of the CEW.														
Officer safety														
Cover officer or supervisor should be present to assist.		/	/		/	/	/	/		/				
Members not equipped with CEWs shall, upon encountering a situation in which it is determined that a CEW may be required, request that a member with a CEW attend the scene.						/								
Use of CEW as "force presence" prior to discharge														
CEW may be used as a force presence by presenting it and issuing a verbal warning to obtain compliance.	/	/	/			/	/	/	/			/	/	/
If the presence of the CEW has failed, or was inappropriate or unreasonable, the officer may choose to utilize:														
The push-stun mode:														
• to engage the subject in the stun capability without a loaded air cartridge; or							/		/					
• to engage the subject in the stun capability with a spent (fired) air cartridge.														
The probe mode:														
• to discharge the CEW air cartridge at the subject which will connect to the subject through probes and conduct wire.														
Stun or probe deployment?														
Distance from subject must be considered when deciding between stun or probe deployment.					/					/				
A CEW is used in the contact-stun mode when:														
• probes fail to work;													/	
• employing a second cartridge is not reasonably possible or appropriate; or														
• proximity dictates and the inmate continues to resist.														
Use of a CEW in contact-stun mode is according to training procedures.													/	

COMPARISONS OF USE-OF-FORCE AND CEW POLICIES

3. STEPS PRIOR TO CEW DEPLOYMENT																
	Municipal Police Forces													Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New Westminster	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Vancouver	Corrections	Previous RCMP
Warnings																
Police will verbally warn the subject that the CEW will be used before it is used.	/			/			/								/	/
Unless the circumstances make it impractical or unreasonable, the contact police officer will notify other police officers at the scene, in person, that the CEW may be used.					/			/		/				/		
All secure locations where CEW units may be deployed, including escort vehicles, must post the approved warning signs. Warning signs will not be posted in public areas of the courthouse facility.																/
Content of warning																
Before using the CEW, when tactically feasible, give the CEW Challenge. "CEW Challenge" means the declaration issued by a member before using the CEW: "Police, stop or you will be hit with 50,000 volts of electricity!" The suggested warning to be given to a subject prior to actively deploying the CEW is as follows: "You have been instructed to _____, if you do not immediately comply with those instructions you will be subjected to 50,000 volts of electricity." While the suggested warning does not need to be delivered "verbatim," at minimum must ensure that the subject knows: <ul style="list-style-type: none"> • what they have been instructed to do; • that they are expected to comply immediately; and • that they will be subjected to 50,000 volts of electricity. 				/										/	/	/
Failure of force presence and warning																
If the force presence of the CEW has failed (<i>i.e.</i> , presenting it and verbally warning the subject that it will be used, thereby obtaining voluntary compliance from the subject), or was inappropriate, the member would then discharge the CEW darts at the subject needing to be controlled. (FORCE PRESENCE MUST BE ATTEMPTED PRIOR TO DISCHARGE.)		/	/			/	/	/	/				/	/		

COMPARISONS OF USE-OF-FORCE AND CEW POLICIES

4. STEPS DURING CEW DEPLOYMENT																
	Municipal Police Forces													Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitsao	Nelson	New Westminster	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Vancouver	Corrections	Previous RCMP
Steps to ensure officer safety																
There should be at least one cover officer present to provide appropriate alternative response options.	/	/	/		/	/	/	/		/				/		/
Choice of stun or probe mode																
Use of the CEW in the contact-stun mode shall only take place where the subject is continuing to resist and: • the probes have been discharged or have malfunctioned, and reloading is not possible; or • the physical situation restricts use of the probes.																/
The CEW is not to be used in the contact-stun mode when it is armed with a live cartridge.																/
If a controlled stun is required due to a close-quarter encounter then a control-stun may be used with a deployed cartridge attached or not.		/														
CEW deployment protocol																
When justified, an officer may discharge the probes at the subject (striking large muscle groups, pelvic girdle, and nerve endings).		/														
The laser sight on the CEW is not to be centred any higher than the subject's upper chest. (Never in the eyes)														/		/
Members should approach and restrain the individual while the CEW is activated but should avoid making contact between the two electrical probes.	/			/			/		/						/	
Members should make every effort to take control of the subject as soon as possible following deployment of a CEW, and if possible during the CEW deployment.																/

COMPARISONS OF USE-OF-FORCE AND CEW POLICIES

[illegible]

COMPARISONS OF USE-OF-FORCE AND CEW POLICIES

5. PROTOCOL FOR MULTIPLE OR PROLONGED DEPLOYMENT															
	Municipal Police Forces												Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitsao	Nelson	New Westminster	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Vancouver	Corrections
Should the second discharge be ineffective the officer should consider the CEW to be ineffective in controlling the subject and consider another appropriate force option to gain control.		/	/										/	/	
Length of CEW application															
A member, when justified, will fire one set of darts at the subject and allow the weapon to run through its five-second cycle, or until the subject has been controlled (whichever comes first).						/		/						/	
Multiple deployment or continuous cycling of the CEW may be hazardous to a subject.				/											/
Members must be aware, as per training protocols, that multiple applications for periods exceeding 15 to 20 seconds may increase risk to the subject.					/				/						
A CEW shall not be used in a continuous cycle for a period exceeding fifteen (15) to twenty (20) seconds in length.		/		/					/						/
If the failure to control the subject is due to the weapon not affecting the subject, the trigger may be depressed again for one more five-second cycle, or until the subject has been controlled (whichever comes first).						/		/					/		

COMPARISONS OF USE-OF-FORCE AND CEW POLICIES

6. STEPS FOLLOWING CEW DEPLOYMENT—MEDICAL														
	Municipal Police Forces												Other Agencies	
	Abbotsford	Central Saanich	Delta	Kitsano	Nelson	New Westminster	Oak Bay	Port Moody	Saanich	Stittimx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Vancouver
													Corrections	Previous RCMP
														Current RCMP
														Sheriffs
General protocol														
Subject is to be advised they have been “hit with a CEW” and the effects are temporary.	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Supervisor will ensure proper medical care is provided.	/									/			/	
Emergency care and medical examination will be provided to the subject in incidents where “Intermediate Weapons” are used.			/										/	
Medical treatment following CEW deployment														
Circumstances warranting mandatory emergency assistance														
If the probes are embedded into the skin, the member shall monitor the individual and request the attendance of an ambulance or transport subject to hospital in patrol vehicle if necessary (member not to remove the probes).	/	/	/		/		/	/	/	/	/	/	/	/
If probe penetrates the eye, genital, breast, or other sensitive area, member will ensure medical treatment.					/									
A member may not remove the probes if they are lodged in a sensitive part of the body, such as the eye or groin, or if the individual's condition warrants medical attention.														/
Officers will seek medical intervention when there is excessive bleeding from the probe sites if the probes have fallen out or have been removed by the subject.									/					
Medical intervention must be made when the subject displays an inappropriate or unexpected response to the CEW: • prolonged paralysis or stun response, • loss of consciousness, • seizure activity, or • any other medical contra-indicator that causes concern.									/	/				
Members must contact the Provincial Ambulance Service to attend location if CEW deployed.			/		/	/	/			/	/			
Medical intervention must be made when the subject incurs a possible injury from a post-CEW fall: • from greater than a standing height; • onto a blunt or sharp object; or • receives a blow to the head from the fall.									/					
The physical signs, symptoms, and mental state shall be noted by the investigating member and reviewed by EHS. Special care shall be taken with persons who are intoxicated by drugs and/or alcohol.					/									

COMPARISONS OF USE-OF-FORCE AND CEW POLICIES

6. STEPS FOLLOWING CEW DEPLOYMENT—MEDICAL																		
	Municipal Police Forces													Other Agencies				
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New Westminster	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Vancouver	Corrections	Previous RCMP	Current RCMP	Sheriffs
Circumstances where medical assistance is not necessary																		
Probes penetrating the skin may be removed by officers trained in probe removal or first aid.				/		/									/	/	/	
Probes that have only penetrated the clothing may be removed by officers.		/	/			/	/	/						/				
Probes should be removed in a manner that least interferes with subject's privacy and dignity.				/												/	/	
Where the probes do not remain in the skin but caused a wound(s), first aid will be provided.																		/
It is not necessary to have a medically trained person examine the individual, unless a probe is lodged in a sensitive part of the body, such as the eye or the groin, or the individual's physical condition warrants medical attention.				/					/							/		
Medical assistance dependent on officer discretion																		
Transport to a medical facility is based on the discretion of Emergency Health Services.						/			/									
Ambulance to be contacted if member believes it is necessary.		/					/					/	/					
Ambulance to be contacted if subject requests.												/						
Ensure the individual receives medical attention if any unusual reactions occur or if the member thinks that he or she is in distress.																/		
Ensure the individual receives medical assistance if the individual has any apparent injuries requiring medical treatment, the individual is in distress, or the individual requests medical assistance.																	/	
Injured or sick persons have the right to refuse medical aid. The use of force to provide medical aid shall only be used as a last resort, with extreme restraint and only when either: ● the power of arrest exists (<i>Criminal Code</i> , <i>Mental Health Act</i> , <i>Liquor Control and Licensing Act</i> , etc.), in which case members may transport to hospital via ambulance for treatment; or ● the person appears to have life-threatening injuries and the refusal of treatment appears irrational due to shock, drug or alcohol abuse, or other medical condition (<i>e.g.</i> , epilepsy). If members reasonably believe the person is not capable of consenting to treatment, the person may be forcibly taken via ambulance. (FORCED MEDICAL TREATMENT)					/					/								

COMPARISONS OF USE-OF-FORCE AND CEW POLICIES

6. STEPS FOLLOWING CEW DEPLOYMENT—MEDICAL																
	Municipal Police Forces													Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New Westminster	Oak Bay	Port Moody	Saanich	Stittimx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Vancouver	Corrections	Previous RCMP
Protocol to follow if medical assistance is warranted																
Paramedics are to be advised subject was “hit with a CEW” and request that an emergency room physician attend to the subject.			/			/		/						/		
Transport to medical facility will be in police transport, unless ambulance is more appropriate.						/								/		
If subject has potential to become aggressive in ambulance, officer will accompany in ambulance.														/		
Arresting member will provide physician name and time/date of release in report.						/										
If the subject is released at the scene, names of the attending EHS personnel shall be noted in the report.						/										
In all instances, a member will attend to the hospital and maintain custody of the subject until either released to hospital staff or transported to the police department.														/		
In all situations where a person has initially refused treatment or is under arrest, a member shall accompany the patient in the ambulance to the hospital.					/											
If medical or physical injury is claimed or observed, the member will make note of that injury, photograph the injury, and where possible, request a statement relative to any injury or affliction from the individual.															/	/
Medical precautions																
Subject is not to be left in prone position given the risk of positional asphyxia.		/														
Subject is to be placed in recovery position after “being hit with a CEW.”		/		/	/										/	
Member is to continuously monitor the subject’s condition.		/	/			/	/	/								

COMPARISONS OF USE-OF-FORCE AND CEW POLICIES

7. STEPS FOLLOWING CEW DEPLOYMENT—PROCEDURAL																
	Municipal Police Forces												Other Agencies			
	Abbotsford	Central Saanich	Delta	Kitsao	Nelson	New Westminster	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Vancouver	Corrections	Previous RCMP
Controlling the subject																
Subject is to be advised they have been “hit with a CEW” and the effects are temporary.	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Immediately handcuff the subject to the rear.		/			/	/	/	/	/	/			/			/
Obtain statement from subject.				/											/	/
Evidentiary protocol and notifications																
When members discharge a CEW (contact-stun or probe discharge) at an incident they shall consider whether it is appropriate for an assault, assault peace officer, and/or obstruction charges against the non-compliant subject.										/		/				
When members discharge a CEW (contact-stun or probe discharge) at an incident they shall ensure that the Forensic Ident Squad attends the incident.												/				
The officer(s) deploying the CEW will treat the probes as a biohazard and dispose of them in a “sharps” container.		/														
In any case where medical attention is required because of injury or loss of consciousness by the individual who has had a CEW applied against them, the probes should not be cut from the wire connecting them to the cartridge. Once the probes have been removed from the individual by qualified medical staff, they are to be placed, barb-first, in the cartridge. Gather up the wire, but do not wind it around the cartridge and do not package it with any other cartridges or property. Treat the discharged cartridge as an exhibit.							/									
Any police officer who uses the CEW on a subject will immediately notify his or her immediate supervisor, who will forthwith attend the scene.	/	/		/	/	/		/		/	/	/	/			/
As soon as practicable each time the CEW is used a member will notify his or her supervisor.															/	/
The supervisor will confirm a CEW data download request is forwarded to the training officer.	/															
The supervisor will ensure witnesses are interviewed and written statements obtained.										/						
The supervisor will attend to the scene and complete the supervisor CEW report and place the report in the investigative file for review.					/											
Supervisor will take possession of the tagged CEW, expended cartridges, and probes, if applicable, and place in a temporary exhibit locker (unless it can be immediately be turned over to the Inspector Support Services).										/	/	/				

COMPARISONS OF USE-OF-FORCE AND CEW POLICIES

7. STEPS FOLLOWING CEW DEPLOYMENT—PROCEDURAL															
	Municipal Police Forces												Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitsao	Nelson	New Westminster	Oak Bay	Port Moody	Saanich	Stittimx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Vancouver	Corrections
Where a police officer discharges a CEW and if there is no injury, the police officer will submit only the expended cartridges to the property room for safekeeping.								/							
Unintentional discharge															
In the event the discharge of the weapon was unintentional and no injury has occurred, members shall:															
<ul style="list-style-type: none"> • notify their supervisor of the incident; • verbally report the incident through their supervisor to the Duty Officer; • submit a detailed written report through their supervisor to the Force Options Training Unit Supervisor when the weapon involved is a CEW; • submit a detailed written report through their supervisor to the Firearms Training Supervisor when the weapon involved is not a CEW; • unload the weapon; • keep the ammunition from the weapon separate from other ammunition seized; • contact the appropriate supervisor (Force Options Training Unit Supervisor or Firearms Training Supervisor), who shall determine if the weapon will be seized. In the event the appropriate supervisor cannot be contacted, notify the Duty Officer, who shall make this determination. (Refer to Seizure of an Intermediate Weapon.) 											/				
Protocol when the subject is grievously injured or killed															
Where a police officer discharges a CEW, if a person is injured or killed, the police officer will surrender the CEW and all unexpected cartridges to his or her supervisor and or an investigating field officer.								/				/			
In every police incident that is either intentional or unintentional and results in death or grievous bodily harm or serious injury, the following procedures will be undertaken:															
<ul style="list-style-type: none"> • The incident scene will be preserved and treated as a major crime scene; • The CEW, cartridge, probes/wires, and AFID tags will be seized by the supervisor on the scene, or by the senior officer in attendance, and treated as an exhibit; and • The seizing member shall not alter the CEW unless it is manifestly unsafe. 	/			/	/ ²	/ ²		/							

COMPARISONS OF USE-OF-FORCE AND CEW POLICIES

7. STEPS FOLLOWING CEW DEPLOYMENT—PROCEDURAL														
	Municipal Police Forces												Other Agencies	
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New Westminster	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Vancouver
<p>A supervisor receiving notification that a person died or was grievously injured following the application of an intermediate weapon shall:</p> <ul style="list-style-type: none"> • immediately report the incident to the Duty Officer; • investigate the reason for the use of the weapon; • seize the weapon; • obtain detailed reports from all members involved in the incident; • notify the Force Options Training Unit Supervisor during regular daytime hours when the weapon involved is a CEW; and • submit a full report including recommendations (if appropriate), to the Chief Constable. 												✓		
<p>In every police incident that results in death or serious bodily injury, the following procedures will be undertaken:</p> <ul style="list-style-type: none"> • The incident scene will be preserved and treated as a major crime scene; • If death or injury resulted from a shooting, the officer's firearm will be seized by the supervisor on the scene, or by the senior officer in attendance, and treated as an exhibit; • The seizure of the officer's gun should be done in private, as discreetly as possible, and the officer will be given a replacement weapon; • The Chief Constable will be immediately notified of the incident and initiate an investigation; • The Staff Sergeant i/c Patrol will be called to the scene; • Investigators will be called to the scene to conduct a comprehensive investigation; • The Forensic Identification Section will be called to the scene; • The incident will be subject to a review; and • Where a death or injury is apparently caused by the primary investigator, the supervisor at the scene will assign another officer as the primary investigator of the original incident. 									✓					

COMPARISONS OF USE-OF-FORCE AND CEW POLICIES

8. VIDEO AND PHOTOGRAPHIC DOCUMENTATION														
	Municipal Police Forces												Other Agencies	
	Abbotsford	Central Saanich	Delta	Kitsao	Nelson	New Westminster	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Vancouver
Photographs/video or other visual documentation of CEW injuries are required.	✓			✓	✓				✓		✓			
During a tactical operation or a cell entry and extraction a video recording is made of:														
<ul style="list-style-type: none"> • inmate's behaviour or circumstances preceding deployment of a CEW device; • deployment of the device; • application of restraints; and • removal of probes. 														
The time and date function is activated on the video recorder.														
When assigned for use on external prowl, in response to an escape, escape attempt, or when it is not operationally practical, a video recording is not required.														

COMPARISONS OF USE-OF-FORCE AND CEW POLICIES

9. REPORTING PROTOCOLS AND REVIEW																
	Municipal Police Forces												Other Agencies			
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New Westminster	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Vancouver	Corrections	Previous RCMP
Reporting protocol—officer deploying CEW																
General use-of-force reporting																
A written report will be submitted whenever a police officer, or other employee:																
• takes an action that results in, or alleged to have resulted in, injury or death of a person;		/	/		/		/	/	/	/						
• applies force through the use of a weapon;																
• discharges a firearm, other than in training; or																
• applies force by any means, other than routine handcuffing or low levels of restraint and compliance.																
CEW use reporting																
The Subject Behaviour—Officer Response report in PRIME will be completed as soon as practical after the member controls a non-compliant individual by using CEW (laser light only, drive-stun, and/or probes) against an individual. The member will submit the report, along with any additional relevant material to his or her immediate supervisor.	/	/			/	/							/			
In the event the discharge of the weapon was unintentional and no injury occurred, the member shall verbally report the incident through his or her supervisor to the Duty Officer and submit a detailed written report through the supervisor to the Force Options Training Unit Supervisor when the weapon involved is a CEW.												/				
A firearms officer shall maintain a software program detailing all operational deployment of CEWs.												/				
A use-of-force report shall be completed any time that a CEW is drawn and presented to a person, whether or not it is actually discharged.			/		/		/	/				/			/	/
A use-of-force (or analogous) report shall be completed in detail and submitted following deployment of the CEW.			/	/	/	/	/	/	/	/	/	/	/	/	/	/
The officer(s) deploying the CEW will make appropriate notations in the official police notebook outlining use of the CEW.		/										/	/			
The use-of-force report (or analogous report) must be forwarded to a designated supervisor or supervisory agency.	/		/	/	/	/	/	/	/	/	/	/	/	/	/	/
Content of report																
Downloaded data from discharged CEW is attached to use-of-force (or analogous) report.							/	/	/			/		/	/	

COMPARISONS OF USE-OF-FORCE AND CEW POLICIES

9. REPORTING PROTOCOLS AND REVIEW																
	Municipal Police Forces													Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New Westminster	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Vancouver	Corrections	Previous RCMP
Use-of-force report shall include the download printout that captures when the CEW was used in the push or probe mode.							/		/							
Record on the investigative file any apparent or alleged affliction/injury caused by the CEW.				/											/	/
Reports shall include the following information: • a description of the incident which led up to the necessity of force being applied; • type of force applied; • type of injury, if any, received by the non-compliant subject or member; and • whether medical attention was requested and the result of the medical attention received.												/				
The narrative portion of the use-of-force report must detail: • reason for contact; • location and environmental conditions; • physical descriptors of suspect; • suspect behaviour; • assessment of threat; • requirement for response; • response options; • action taken; and • reassessment and follow-up.							/	/								
Arresting member will provide physician name and time/date of release in report.						/										
If the subject is released at the scene, names of the attending EHS personnel shall be noted in the report.						/										
Copies of the reports are forwarded to the provincial director, Adult Custody Division. Reports include: • incident reports; • inmate injury report; • use-of-force report; and • video recording (when available).														/		
Reporting protocol—supervisor																
A supervisor receiving notification that a person died or was grievously injured following the application of an intermediate weapon shall immediately report the incident to the Duty Officer.										/	/					

COMPARISONS OF USE-OF-FORCE AND CEW POLICIES

9. REPORTING PROTOCOLS AND REVIEW															
	Municipal Police Forces												Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitsano	Nelson	New Westminster	Oak Bay	Port Moody	Saanich	Stittimx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Vancouver	Corrections
A supervisor receiving notification that a person died or was grievously injured following the application of an intermediate weapon shall obtain detailed reports from all members involved in the incident.												✓			
A supervisor receiving notification that a person died or was grievously injured following the application of an intermediate weapon shall submit a full report, including recommendations (if appropriate), to the Chief Constable.												✓			
Once a subject has been affected and controlled with the CEW, the supervisor will complete the supervisor CEW report and place the report in the investigative file for review.					✓					✓					
Supervisor will ensure that members submit a use-of-force form and review it for quality assurance.														✓	✓
Supervisor will place a copy of the use-of-force report with the weapon.												✓			
On a quarterly basis the training officer will compile a summary Subject Behaviour Response Report.	✓														
Reporting protocol—duty officer															
A duty officer receiving a report that a person has died or was grievously injured following the application of an intermediate weapon shall notify Major Crime Section—Homicide, who will be responsible for the investigation.												✓			
Review of CEW use															
Circumstances warranting review															
The supervisor will review the report to ensure the actions of member comply with law and policy. If there is a concern over the appropriateness of the member's actions, supervisors may consult a subject matter expert.	✓														
All incidents will be reviewed in which a police officer applies force:			✓		✓	✓		✓	✓	✓					
• by means of a weapon, firearm, or lateral neck restraint and compliance, or			✓		✓	✓		✓	✓	✓					
• by any means, other than routine handcuffing or low levels of restraint			✓		✓	✓		✓	✓	✓					
The police department will review the assignment of a police officer, using established criteria, where use of force results in death or grievous bodily harm.			✓		✓	✓		✓	✓	✓					
Purpose of review															
All use-of-force reports will be reviewed by the National Criminal Operations Branch as soon as practicable to ensure consistency with national directives and policy.														✓	

COMPARISONS OF USE-OF-FORCE AND CEW POLICIES

9. REPORTING PROTOCOLS AND REVIEW														
	Municipal Police Forces												Other Agencies	
	Abbotsford	Central Saanich	Delta	Kitsao	Nelson	New Westminster	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Vancouver
All reported use of force will be reviewed by the Chief Constable to determine whether:														
<ul style="list-style-type: none"> • policies were adhered to; • policies covering the situation were clearly understandable and effective; and • training and/or policies require revision. 		✓	✓		✓									
All reported uses of force will be reviewed by the OIC of Staff Development to determine whether:														
<ul style="list-style-type: none"> • policies covering the situation were clearly understandable and effective; and • department training and/or policies/procedures require revision. 							✓	✓	✓	✓				
Review protocol														
All findings to non-compliance, with respect to policies or training inadequacies, will be reported to the Chief Constable.		✓	✓		✓					✓				
If an issue is identified during the review process, the respective divisional Criminal Operational Branch is to be notified.														✓
Watch Commanders are responsible for ensuring that:														
<ul style="list-style-type: none"> • incidents involving ANY discharge of a CEW are reviewed and appropriately documented and brought forward to the supervisor in charge of training; • use of the CEW is limited to CEW trained officers; • use of CEWs and related tactics is monitored; • proper procedures are followed when signing out CEWs; • when returned at end of watch, ALL CEWs and AIR CARTRIDGES are accounted for; • members who use the CEW complete a subject behaviour report PRIME template; • a review is conducted into each incident in which a CEW is fired; and • a report on any contentious deployments or actions is forwarded to the departmental subject matter expert. 						✓								
In review, consideration must be given to the safety of the public and other officers when considering force options.									✓					
In review, the safety of officers is of paramount importance and the actions of all officers and supervisors must be judged on this basis.									✓					
In review, actions taken by members must be consistent with officer safety and the protection of the public.									✓					

COMPARISONS OF USE-OF-FORCE AND CEW POLICIES

9. REPORTING PROTOCOLS AND REVIEW														
	Municipal Police Forces												Other Agencies	
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New Westminster	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Vancouver
An officer's "use-of-force report" will not be used or admitted into evidence under the following circumstances: <ul style="list-style-type: none"> • internal investigations or hearings; • <i>Police Act</i> investigations or hearings; and • Police Complaint Commissioner hearings. 		✓				✓	✓		✓					
A complete investigation into the use of deadly force will be conducted by the GIS Supervisor, as directed by the Inspector i/c Operations, who will submit a detailed report to the Chief Constable, including recommendations on reassignment, further training, or disciplinary action, if warranted. The Chief Constable will submit the report to the chairperson of the police board. The chairperson of the police board will review the report and take the appropriate action.		✓			✓			✓	✓					
Substantive content of review														
A complete investigation into the use of deadly force will be conducted by the OIC of Detectives, who will submit a detailed report to the Chief Constable including recommendations on: <ul style="list-style-type: none"> • commendation (for appropriate action); • on reassignment; • further training; • disciplinary action, if warranted; or • no action to be taken. 		✓					✓		✓					
The OIC of Staff Development will: <ul style="list-style-type: none"> • compile a report on any policy or training inadequacies; • include recommendations to correct the inadequacies; and • forward the report to the Chief Constable. 									✓					

COMPARISONS OF USE-OF-FORCE AND CEW POLICIES

10. EXCITED DELIRIUM															
	Municipal Police Forces													Other Agencies	
	Abbotsford	Central Saanich	Delta	Kitsao	Nelson	New Westminster	Oak Bay	Port Moody	Saanich	Stittimx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Vancouver	Corrections
Symptoms and identification of excited delirium															
Individuals can experience medical emergencies brought on through mental, medical, or substance abuse issues, such as excited delirium or psychosis. Policy notes that members should be aware that excited delirium exists and may warrant special care.	/			/	/									/	
Excited delirium is defined as “a state of extreme mental and physiological excitement, characterized by extreme agitation, hyperthermia, hostility, exceptional strength and endurance without apparent fatigue” (Morrison and Sadler, 2001).				/										/	
Excited delirium may present as combative, incoherent, non-compliant, and unresponsive behaviour.	/														
Subjects may exhibit the following symptoms or behaviour: removal of clothing; bizarre and violent behaviour; running in heavy street traffic; hyperactivity; aggression; smashing objects, particularly windows and glass; non-responsive to police presence or verbal extreme paranoia; incoherent shouting, unintelligible speech, animal sounds; flight behaviour; lid lift (eyes opening so wide the whites of the eyes are completely visible); unusual strength; intervention; imperviousness to pain; ability to resist numerous police officers over an extended period of time; overheating (hyperthermia); or profuse sweating or no sweating at all.				/										/	
All members must familiarize themselves with the common signs of excited delirium.				/										/	
Protocol in dealing with excited delirium															
Ambulance should be called as soon as possible if excited delirium is noted. (Emergency health services involvement is warranted as early as possible in the restraint process.)	/			/	/									/	
Intervention should be delayed until ambulance is present in cases of excited delirium, though consideration must also be given to containing the subject.	/														
Individuals experiencing excited delirium require medical treatment, which first requires that they be restrained.				/										/	
If possible, promptly go to the hospital to relay observations to health care personnel to ensure information is properly relayed.				/										/	
If there is evidence of substance abuse, seize as an exhibit.				/										/	
In considering intervention options for excited delirium cases, the use of the CEW in a probe-mode deployment may be the most effective response to establish control.				/										/	

COMPARISONS OF USE-OF-FORCE AND CEW POLICIES

10. EXCITED DELIRIUM															
	Municipal Police Forces												Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New Westminster	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Vancouver	Corrections
When a subject who has been “hit with a CEW” is detained in detention facility, the guard or other members must be aware of that fact and closely monitor the subject’s health and safety due to increased risk for excited delirium.								/							
<p>An optimal response strategy should include the following:</p> <p>EMS to attend with members;</p> <ul style="list-style-type: none"> • ensure there are enough members on the scene for a quick and effective “hands on” (control) in an effort to minimize the incidence of physical confrontation (note: On its own, the CEW is not intended as a restraint device); • one member on CEW; • control of arms and legs during CEW deployment cycle; • apply approved restraints; • when safe to do so, remove the subject from the prone position as soon as possible after control is established; • if no EMS is present at the scene and the subject suddenly becomes quiet and stops resisting, EMS should be summoned and preparation be made for CPR; and • as excited delirium is a medical emergency, all subjects should be transported via EMS, where possible, and placed in health services care as soon as possible. 				/									/		
Member training regarding excited delirium															
Member training includes education and awareness about excited delirium and resuscitation of unresponsive subjects, in conjunction with CEW application.					/										

COMPARISONS OF USE-OF-FORCE AND CEW POLICIES

11. CEW DEFINITIONS															
	Municipal Police Forces												Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitsoo	Nelson	New Westminster	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Vancouver	Corrections
CEWs defined as “less than lethal” or “less lethal.”			/				/	/	/				/	/	/
Definition describes physiological effects of CEW exposure (does not differentiate effects of probe and stun modes).							/		/						
Definition describes physiological effects of CEW exposure (probe function).	/	/	/	/		/		/			/		/		/
Definition describes physiological effects of CEW exposure (stun function).	/	/		/											/
Policy identifies specific authorized CEW models.				/		/	/		/		/		/	/	/
CEWs are defined as prohibited weapons under s. 84(c) of the <i>Criminal Code</i> .							/		/						
CEWs are “intermediate weapons” that provide officers with a range of force options on the Use-of-Force Continuum between “hard physical control” and “lethal force.”							/								
CEWs are defined as “prohibited firearms.”				/											/

COMPARISONS OF USE-OF-FORCE AND CEW POLICIES

12. LEGAL AND ORGANIZATIONAL AUTHORITY FOR CEW USE (INCLUDING TRAINING)																
	Municipal Police Forces												Other Agencies			
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New Westminster	Oak Bay	Port Moody	Saanich	Stittimx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Vancouver	Corrections	Previous RCMP
Legislative authorization																
The provisions of the <i>Criminal Code</i> , with respect to the use of force by police officers, will prevail over any direction provided by the department.																
Departmental direction or orders will not serve as justification or protection for a police officer in cases where the use of force exceeds the provisions of the <i>Criminal Code of Canada</i> .			/		/				/			/				
S. 25 of the <i>Criminal Code</i> authorizes using as much force as is necessary if the member acts on reasonable grounds and is justified in doing what they are required or authorized to do, and in using as much force as is necessary for that purpose.	/				/	/	/		/	/			/	/	/	
S. 26 of the <i>Criminal Code</i> holds each member criminally responsible for any excessive use of force.	/				/	/	/		/	/			/	/	/	
S. 27 of the <i>Criminal Code</i> governs the use of force.					/	/	/	/	/	/			/	/	/	
S. 37 of the <i>Criminal Code</i> governs the use of force.					/	/	/		/	/			/	/	/	
<i>Police Act</i> Regulations on Use of Force govern police use of force.											/	/				
<i>Correction Act</i> .														/		
Organizational authorization and rules governing the use of force																
General rules																
The use and control of weapons will be governed by:																
• the legal requirements covering these weapons;																
• the provisions of the use of force;			/		/	/			/	/						
• the policies and procedures of the department;																
• the training and proficiency of the officer; and																
• the need arising from carrying out the required duties.																
Specific rules																
Members of the Police Service shall only carry the CEWs authorized for use by the Service.		/	/		/	/	/	/	/	/			/		/	
Unauthorized CEWs of any kind are prohibited from being carried or used by members.		/	/			/		/					/			
The CEW units are prohibited from being carried or used while off duty.		/	/		/	/	/	/	/	/	/		/	/		

COMPARISONS OF USE-OF-FORCE AND CEW POLICIES

12. LEGAL AND ORGANIZATIONAL AUTHORITY FOR CEW USE (INCLUDING TRAINING)																			
	Municipal Police Forces														Other Agencies				
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New Westminster	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Vancouver	Corrections	Previous RCMP	Current RCMP	Sheriffs	
Specific rules—training provisions																			
Only police officers trained and demonstrating proficiency in the use of authorized firearms or weapons will be allowed to carry and use issued firearms or weapons.	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Each police officer will be required to qualify, at least annually, with any firearm or other weapon that the officer is authorized to use.		/	/		/	/	/	/	/	/									
A member will be required to qualify in the use of the CEW at least every two years.							/				/								
Members certified to operate the CEW must re-qualify every three years.				/												/			
Members certified to operate the CEW must re-qualify annually.																	/		
Training will include education and awareness with respect to excited delirium and resuscitation of unresponsive subjects, in conjunction with CEW application.					/														
Training will be based on standards developed through the Provincial Use-of-Force Coordinator, the Operator Course Training Standard being developed in conjunction with the Provincial Use-of-Force Working Group.					/														
Department must maintain list of CEW trained staff and member re-certification.				/									/		/	/	/		
All CEW training is to be conducted by an instructor certified on the specific device used.									/										

COMPARISONS OF USE-OF-FORCE AND CEW POLICIES

13. CEW ISSUING, MAINTENANCE, AND STORAGE																		
	Municipal Police Forces													Other Agencies				
	Abbotsford	Central Saanich	Delta	Kitsao	Nelson	New Westminster	Oak Bay	Port Moody	Saanich	Strat'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Vancouver	Corrections	Previous RCMP	Current RCMP	Sheriffs
General																		
Only properly functioning CEWs will be carried by officers.						/					/							
Issuing protocol and testing																		
System in place to maintain record of CEW assignment and to ensure all equipment is accounted for.						/	/	/	/		/							
Officers must sign out CEWs at start of shifts and sign back in afterward.			/			/	/				/							/
Police officers must record the serial number of the CEW prior to the start of each shift.					/													
Officers must ensure unit is functioning and battery is charged upon receipt (spark test or otherwise).	/		/	/	/		/	/	/		/					/	/	
Spark test is the only approved method to test battery.				/												/	/	
In a spark test, a loading bin for firearms must be used.																		/
CEW care																		
When CEW is continuously re-cycled, a cooling-off period of 10 minutes must be allowed to prevent internal damage.				/												/	/	
Storage																		
CEW to be stored in accordance with the <i>Public Agents Firearms Regulations</i> .				/												/	/	
CEW to be stored in secure room/equipment office.		/	/			/	/	/	/		/				/			
CEW to be stored in same facilities as handguns, with cartridge removed.																		/
Cartridges are to be stored in the cartridge holder provided on the holster.				/												/	/	
Inspection and maintenance																		
Timing																		
Defective CEWs must be brought to the attention of supervisors.											/							
Maintenance to follow CEW operational manual.		/													/			/
Inspection of CEW done upon discharge.								/					/					
Inspection and servicing done every four-day rotation by supervisor (four-day inspection).		/					/											
Designated member will inspect CEWs monthly (monthly inspection).								/										
Annual inspection and maintenance done by Armourer (annual).			/															

COMPARISONS OF USE-OF-FORCE AND CEW POLICIES

13. CEW ISSUING, MAINTENANCE, AND STORAGE																
	Municipal Police Forces													Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitsao	Nelson	New Westminster	Oak Bay	Port Moody	Saanich	Stittimx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Vancouver	Corrections	Previous RCMP
Inspection done a minimum of every two years.		✓			✓			✓		✓						
Party responsible for inspection																
CEW Armourer or Firearms Training Officer or other designate is responsible for CEW repair.						✓					✓					
Maintenance protocol																
Detailed battery charging, maintenance, and replacement protocol in place.				✓											✓	✓
Where rechargeable batteries are used, a second set of batteries must be on hand for backup.																✓
If the digital power meter (DPM) falls below 30%, Use-of-Force Coordinator is to be contacted and a new DPM purchased.							✓									
DPM is to be replaced when below 20% life.				✓											✓	✓
DPM to be disposed of when below 1% life.				✓											✓	✓
DPM is only to be replaced by Use-of-Force Coordinator or designate.							✓									
Member is not to remove or change batteries.							✓									
Only Duracell Ultra batteries (or other approved batteries) are to be installed in CEWs.				✓			✓								✓	✓
Battery and DPM maintenance is to be done by one person to ensure CEWs are always available and will provide consistent and reliable performance.							✓									
Detailed battery-charging protocol in place for new CEWs.				✓											✓	✓
If operational cartridge has not been deployed in five years, it must be replaced.				✓											✓	✓
Cartridges should not be stored long term, and should not be carried in the extended DPM.				✓											✓	✓
Malfunctioning or faulty CEWs must be marked to indicate that they are faulty and to be removed from service, in compliance with the <i>Canada Labour Code</i> .				✓											✓	✓
Expired cartridges may be used for training purposes, except for scenario-based training.				✓											✓	✓

COMPARISONS OF USE-OF-FORCE AND CEW POLICIES

14. CEW HANDLING														
	Municipal Police Forces												Other Agencies	
	Abbotsford	Central Saanich	Delta	Kitsao	Nelson	New Westminster	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Vancouver
CEW must be carried on duty belt or holster, opposite the sidearm, to insure proper weapon is drawn.				/	/				/					/
When not in use, CEW must be carried in the locked trunk of the police car.								/						
The fluorescent yellow stickers on the CEW are intended to differentiate it from the pistol and must not be removed or altered under any circumstance.				/									/	/
During escort, the CEW will be either in the approved holster on the duty belt or in the holster and secured in the vehicle gun locker.														/

COMPARISONS OF USE-OF-FORCE AND CEW POLICIES

15. VOLUNTARY EXPOSURE															
	Municipal Police Forces													Other Agencies	
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New Westminster	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Vancouver	
ONLY candidates taking the CEW course or CEW instructor course may participate in the CEW voluntary exposure exercise, to be conducted by a CEW instructor.				✓										✓	✓
The public is NOT permitted to participate in voluntary exposure exercise.				✓										✓	✓
Candidates in the cadet training program are permitted to participate in the CEW voluntary exposure exercise.															✓
Trainees are not subjected to the CEW under any circumstances.														✓	

COMPARISONS OF USE-OF-FORCE AND CEW POLICIES

16. DATA DOWNLOADING																
	Municipal Police Forces												Other Agencies			
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New Westminster	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Transit Authority Pol	Vancouver	Victoria	West Vancouver	Corrections	Previous RCMP
Download protocol requirement																
Each division should develop a system for downloading and storing data downloaded.				/											/	/
When data download is to occur																
Data is downloaded after a CEW is discharged and attached to use-of-force report (or other analogous report) .							/	/	/		/	/		/		
Data is downloaded for use in an investigation.				/											/	/
Data is downloaded from malfunctioning or faulty CEWs.				/											/	/
Data must be downloaded from CEWs a minimum once a year.				/											/	/
Who performs download																
CEW downloads done only by designated officers.				/											/	/
When CEW inspection is to occur																
Independent test of CEW done when someone is seriously injured or dies when a member resorts to lethal force because a CEW was ineffective or malfunctioned.				/											/	
Independent test of CEW done when a member is seriously injured or dies when a member resorts to lethal force because a CEW was ineffective or malfunctioned.				/											/	
Independent test of CEW done after any incident that involves injury requiring medical treatment or death proximal to the use of a CEW.																/
Independent test of CEW done after any incident in which it is in the public or the member's interest to determine the working state of a CEW.															/	
Independent test of CEW done when a supervisor, a Divisional Use-of-Force Coordinator, a Criminal Operations Officer, the National Use-of-Force Officer, or National Criminal Operations Branch is of the opinion that testing is warranted in the circumstances.																/

1 Not clear on RCMP website.

2 Not CEW specific.

APPENDIX F

BRITISH COLUMBIA LAW ENFORCEMENT AGENCIES COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES TABLE OF CONTENTS

	Page
1. PRINCIPLES FOR CEW USE.....	399
2. CIRCUMSTANCES IN WHICH CEW DEPLOYMENT IS PROHIBITED.....	402
3. STEPS PRIOR TO CEW DEPLOYMENT	407
4. STEPS DURING CEW DEPLOYMENT	408
5. MULTIPLE OR PROLONGED DEPLOYMENTS.....	414
6. STEPS FOLLOWING CEW DEPLOYMENT—MEDICAL	416
7. STEPS FOLLOWING CEW DEPLOYMENT—PROCEDURAL.....	418
8. VIDEO AND PHOTOGRAPHIC DOCUMENTATION	421
9. REPORTING PROTOCOLS AND REVIEW	422
10. EXCITED DELIRIUM	424
11. CEW DEFINITIONS	431
12. CERTIFICATION STANDARDS AND METHODS	433
13. CEW ISSUING, MAINTENANCE, AND STORAGE.....	443
14. CEW HANDLING (while on duty)	446
15. VOLUNTARY EXPOSURE.....	447
16. DATA DOWNLOADING AND INDEPENDENT TESTING	453

<p>Information displayed in these matrices is based on information received by the Braidwood Commissions of Inquiry as of July 31, 2008.</p>
--

APPENDIX F

Training Materials Used By Each Agency:

- TASER International (TI) Version 11.0 (Jan. 2004) = Port Moody uses a small selection of the information from this version
- TI Version 12.0 (Nov. 2004) = Delta
- TI Version 13.0 (May 2006) = Transit Authority Police (X26 User Course), West Vancouver, Sheriffs (through the Justice Institute)
- TI Version 14.0 (Oct. 2007) = Abbotsford, Central Saanich, Nelson, New Westminster, and Corrections
- RCMP, (Kitasoo, Stl'Atl'Imx) = Essentially based on Version 13.0, but states it has separate training methods and tactics.
- The remaining agencies of Oak Bay, Vancouver, Victoria, and Saanich do not use specific versions of the TI materials, but do include some of the images and slides from the TI training materials. These agencies appear to have based their training on a Course Training Standard (CTS) developed by Cst. Mike Massine of the Victoria Police Department.

The term “CEW” or “CEWs” will be the term used in this training matrix to describe Conducted Energy Weapons (CEWs)/Conducted Energy Devices (CEDs)/Electric Control Devices (ECDs).

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

1. PRINCIPLES FOR CEW USE																	
	Municipal Police Forces														Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitsao	Nelson	New Westminster	Oak Bay	Port Moody	Saanich	St'tat'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Vancouver	Corrections	RCMP	Sheriffs
Determining the appropriate use-of-force measure to apply: general use-of-force training																	
“Each agency is responsible for creating their own use-of-force policy and determining how [CEW] devices fit into their use-of-force matrix based on legal and community standards. Make sure your agency has a use-of-force policy that addresses [CEW] device use and that this policy is clearly addressed during end-user training.” (TI v.13, v.14) ¹	/	/			/	/				/				/	/		/
Training materials include the National Use-of-Force Framework (NUFF) to guide CEW use.							/		/		/	/	/				
Training materials include the Incident Management/Intervention Model (IM/IM) to guide CEW use.				/						/						/	
Principles of the IM/IM:																	
(1) The primary objective of any intervention is public safety.																	
(2) Police officer safety is essential to public safety.																	
(3) The intervention model must always be applied in the context of a careful assessment of risk.																	
(4) Risk assessment must take into account the likelihood and extent of life loss, injury, and damage.				/						/						/	
(5) Risk assessment is a continuous process and risk management must evolve as situations change.																	
(6) The best strategy is least intervention necessary to manage risk.																	
(7) The best intervention causes the least harm or damage.																	
The IM/IM is not a model for justification but a risk assessment tool.				/						/						/	
The CEW is an alternative force options tool.																	/
The CEW is an intermediate weapon based on the NUFF.							/		/		/	/	/				
The CEW is an intermediate weapon based on the IM/IM.				/						/						/	
The CEW is a close-quarters- to medium-range intermediate weapon.							/										
The CEW is a medium-range intermediate weapon. (TI v.11)									/								
The CEW device is not a substitute for lethal force. (TI v.12, v.13, v.14)	/	/	/	/	/	/				/	/	/		/	/	/	/
CEWs can be used in conjunction with deadly force where appropriate and reasonable to do so.				/						/						/	
Implied and actual uses of the CEW are allowed at active resistance on the NUFF. ²							/		/		/	/	/	/			

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

1. PRINCIPLES FOR CEW USE																	
	Municipal Police Forces														Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitsao	Nelson	New Westminster	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Vancouver	Corrections	RCMP	Sheriffs
TASER use is allowed at active resistance on the IM/IM.				/						/						/	
Active resistance—a subject displaying actively resistant behaviour does not physically assault the officer, but actively resists in such a manner that won't allow the officer to control. Often accompanying this type of resistance is “verbal non-compliance” (refusing a lawful order or direction). Examples of this resistance are pushing or pulling away from the officer or attempting to flee.											/						
Active resistance can include subjects who are non-compliant; pull away; twist and turn; resist control; “turtle” on the ground; prevent arrest; or facilitate escape without assault.												/					
Active resistance includes holding one’s arms underneath oneself while on the ground.				/						/						/	
Subjects who actively resist will typically pull arms away from controlling officers, run away, hold onto fixed objects, brace themselves in doorways, or “turtle” by pulling their arms into their chest area, resisting attempts to straighten the arms.													/				
Active resistance includes resisting an officer’s lawful efforts to take them into custody without attacking the officer.							/		/								
Active resistance—a person who is physically resisting their attempt at control by the person directing overt and defensive physical actions; the person may attempt to push or pull away in a manner that does not allow the officer to establish control; may include the person trying to run away, pulling hands away or actively holding onto an object which defeats the officer’s attempts at physical control, e.g. , a person pushing away or struggling defensively while a member attempts to place him/her into the back of a police vehicle.																/	
Passive resistance includes not complying with verbal commands.												/					
The use of the CEW is supported when lower levels of force are ineffective and/or inappropriate and where higher levels of force would be inappropriate or not justified.												/					
CEWs are to be used as a control weapon against an active resister or assailant where other forms of control or weapons would be ineffective or inappropriate under the circumstances.																	/

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

1. PRINCIPLES FOR CEW USE																
	Municipal Police Forces													Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitsao	Nelson	New Westminster	Oak Bay	Port Moody	Saanich	Stittimx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Vancouver	Corrections	RCMP
Included in the training materials is a chart relating to TASER® International, Inc.'s "Use-of-Force Police Survey." The survey shows that 87% of departments surveyed in the U.S. most commonly use the CEW at or before pepper spray on the use-of-force continuum. Nine percent use the CEW above pepper spray, and 3% use the CEW at impact weapon on the use-of-force continuum. (TI v.13, v. 14)	/	/			/	/					/			/	/	/
Many situations beginning as standoffs have the potential to escalate to lethal force. Early use of a CEW can prevent many of these situations from escalating to lethal force levels. (TI v.12)			/													
Officers may act to prevent an event; often need to go one level higher on the IM/IM to establish control.				/						/					/	
Specific use-of-force training																
Push-stun mode																
To use a CEW in push-stun mode, a minimum of active resistance is required.							/		/			/	/			
Probe mode																
To use a CEW in probe mode, requires a minimum of assaultive behaviour is required.							/		/				/			
Probe mode may be used on subjects displaying combative or assaultive behaviour or higher.							/		/				/			
Subject specific considerations																
Although several subjects armed with firearms have been incapacitated by CEW devices and safely apprehended, there have been cases where subjects have been able to discharge a firearm after being struck with a CEW device. Always ensure you have cover and other available force options when attempting to incapacitate an armed subject with a CEW device. (TI v.14)	/	/			/	/									/	
Active resistance includes holding one's arms underneath oneself while on the ground.				/						/					/	

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

2. CIRCUMSTANCES IN WHICH CEW DEPLOYMENT IS PROHIBITED																	
	Municipal Police Forces														Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections	RCMP	Sheriffs
Blanket prohibitions																	
Never use a contact stun with the cartridge still in place.																	✓
Never point at anything you don't intend to shoot. (TI v.12, v.13, v.14)	✓	✓	✓	✓	✓	✓				✓	✓			✓	✓	✓	✓
Never place finger on trigger unless firing is imminent. (TI v.12, v.13, v.14)	✓	✓	✓	✓	✓	✓			✓	✓	✓		✓	✓	✓	✓	✓
Never place a hand in front of weapon, especially when changing the cartridge. (TI v.12, v.13, v.14)	✓	✓	✓	✓	✓	✓			✓	✓	✓		✓	✓	✓	✓	✓
Keep the weapon safety switch in the SAFE position until pointed in a safe direction (toward the target). (TI v.12, v.13)			✓	✓						✓						✓	
Never aim the laser in the eyes. (TI v.13, v.14)	✓	✓		✓	✓	✓				✓	✓		✓	✓	✓	✓	✓
Laser light can cause eye damage if directed into eyes for prolonged periods of time. (TI v.12)			✓	✓						✓						✓	
Probes shot in the eyes can cause serious damage. (TI v.12)			✓														
Areas of the body to avoid unless the situation dictates a higher level of injury risk is justified																	
Probe mode																	
Eyes. (TI v.12, v.13, v.14)	✓	✓	✓		✓	✓					✓			✓	✓		✓
Head. (TI v.12, v.13, v.14)	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓	✓
Avoid head shots unless there is a risk of death or grievous bodily harm (DGBH).													✓				
Face. (TI v.12, v.13, v.14)	✓	✓	✓		✓	✓					✓			✓	✓		✓
Throat. (TI v.12, v.13, v.14)	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓	✓
Groin. (TI v.12, v.13, v.14)	✓	✓	✓	✓	✓	✓				✓	✓			✓	✓	✓	✓
Drive-stun with cartridge																	
Groin. (TI v.12, v.13, v.14)				✓			✓		✓	✓			✓			✓	
Head. (TI v.12, v.13, v.14)	✓	✓		✓	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓	✓
Avoid head shots unless there is a risk of DGBH.													✓				
Throat. (TI v.12, v.13, v.14)	✓	✓		✓	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓	✓
Drive-stun without cartridge																	
Head.				✓			✓			✓						✓	

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

2. CIRCUMSTANCES IN WHICH CEW DEPLOYMENT IS PROHIBITED																	
	Municipal Police Forces													Other Agencies			
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections	RCMP	Sheriffs
Avoid head shots unless there is a risk of DGBH.													✓				
Neck. (TI v.12, v.13, v.14)	✓	✓	✓		✓	✓	✓				✓			✓	✓		✓
Groin. (TI v.12, v.13, v.14)	✓	✓	✓	✓	✓	✓	✓			✓	✓			✓	✓	✓	✓
Throat.				✓						✓						✓	
Trachea.			✓						✓				✓				
Back of neck.			✓						✓				✓				
Groups of people upon whom to avoid CEW application if possible																	
Pregnant women. (TI v.12, v.13, v.14)	✓	✓	✓	✓	✓	✓			✓	✓	✓		✓	✓	✓	✓	✓
A CEW may be used if the subject is pregnant and the only option is lethal force.				✓					✓	✓			✓			✓	
Frail or infirm. (TI v.13, v.14)	✓	✓		✓	✓	✓			✓	✓	✓		✓	✓	✓	✓	✓
Very young.									✓				✓				
Officers must use caution when the subject is running, but are not prohibited from deploying a CEW on a running or fleeing subject. (TI v.13, v.14)	✓	✓		✓	✓	✓				✓	✓			✓	✓	✓	✓
Environmental considerations																	
CEWs can ignite explosive materials, liquids, or vapours. These include gasoline, other flammables, explosive materials, liquids, or vapours (e.g. , gases found in sewer lines or methamphetamine labs). Some self-defense sprays use flammable carriers such as alcohol and could be dangerous to use in immediate conjunction with CEWs. (TI v.12, v.13, v.14)	✓	✓	✓	✓	✓	✓			✓	✓	✓		✓	✓	✓	✓	✓
Fall injuries, particularly from elevated heights, can pose risk of significant injury or death; can cause secondary injuries from person falling. (TI v.12, v.13, v.14)	✓	✓	✓	✓	✓	✓			✓	✓	✓		✓	✓	✓	✓	✓
Elevated risk when subject is in water. (TI v.13, v.14)	✓	✓		✓	✓	✓				✓	✓			✓	✓	✓	✓
Medical considerations																	
Published peer-reviewed research shows that there is no negative effect of the CEW device when used on a subject with a pacemaker. (TI v.13, v.14)	✓	✓			✓	✓					✓			✓	✓		✓
Modern pacemakers and implanted cardiac defibrillators withstand external electrical defibrillators at least 800 times stronger than the CEW conducted energy pulses.				✓						✓						✓	

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

2. CIRCUMSTANCES IN WHICH CEW DEPLOYMENT IS PROHIBITED															
	Municipal Police Forces													Other Agencies	
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	Strathlinx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections
The CEW is safe and effective for suspects under the influence of drugs or alcohol. (TI v.12)			/												
Cocaine makes the heart less susceptible to electrically induced fibrillation. (TI v.13, v.14)	/	/		/	/	/				/	/			/	/
Animal testing has shown insignificant effects on heart rhythms or blood pressure.				/						/					/
CEW devices have been successfully used to incapacitate subjects under a variety of chemical and mental influences. The CEW device works on people under these influences because it affects the sensory and motor functions of the nervous system (incapacitation). (TI v.13, v.14)	/	/	/	/	/	/				/	/			/	/
There is a risk of surface burns, wounding, and scarring of the skin during all modes of deployment. (TI v.12, v.13, v.14)	/	/	/		/	/			/		/		/	/	/
Scarring may result from CEW application, depending on length of exposure and skin type.				/					/	/					/
In a dynamic environment, drive-stun electrodes may slide on the skin of a thrashing subject causing multiple marks, scratches, and scarring, as opposed to single electrode marks if the drive-stun is applied directly without movement. The severity and duration of these marks, scratches, and scars may vary. (TI v.12, v.13)			/								/			/	/
There are medical opinions that the output of the CEW exceeds the medical threshold required to cause seizure.									/				/		
Strong muscle contractions during neuromuscular incapacitation (NMI) may cause muscle or tendon strain or tear, joint injuries, back injuries, stress fractures, or other secondary injuries. (TI v.12, v.13, v.14)	/	/	/		/	/					/			/	/
In certain instances, subjects may experience physical exertion type injuries.				/						/					/
NMI can cause pain and associated stress. (TI v.12, v.13, v.14)	/	/	/		/	/					/			/	/
Subject may experience stress caused by pain, minor skin irritation or injury, temporary blisters, redness, or minor bleeding if probes puncture skin. (TI v.12, v.13, v.14)	/	/	/	/	/	/				/	/			/	/
Other subject considerations															
Training materials contain examples of types of subjects involved in effective CEW incidents, without recommending use on these subjects. These types of subjects include emotionally disturbed persons (EDPs), suicidal subjects, subjects suffering from excited delirium, and subjects under chemical influence. (TI v.13, v.14)	/	/			/	/					/			/	/

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

2. CIRCUMSTANCES IN WHICH CEW DEPLOYMENT IS PROHIBITED																	
	Municipal Police Forces														Other Agencies		
	Abbotsford	Central Saanich	Delta	Klasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections	RCMP	Sheriffs
The CEW device can be an effective way to deal with situations involving suicidal subjects. (TI v.12, v.13, v.14)	/	/	/		/	/					/			/	/		/
When dealing with suicidal subjects, establish lethal cover as needed. (TI v.12, v.14)	/	/	/		/	/					/			/	/		/
CEW technology is becoming widely accepted as the premier tool for crisis intervention teams based upon its non-injurious effect upon emotionally disturbed subjects. (TI v.12)			/														
There is an increased risk involved with deploying CEW upon someone operating a vehicle or machinery (during all modes of deployment). (TI v.13, v.14)	/	/		/	/	/				/	/			/	/	/	/
Officer safety																	
Cartridge safety																	
Cartridges are deployed by electrical discharge. (TI v.12, v.13, v.14)	/	/	/	/	/	/				/	/			/	/	/	/
Unexpected deployments can be caused by any static discharge. (TI v.12, v.13, v.14)	/	/	/	/	/	/			/	/	/			/	/	/	/
Do not point cartridges at yourself or at anyone else. (TI v.12, v.13, v.14)	/	/	/	/	/	/				/	/			/	/	/	/
Never carry loose live cartridges in pockets as a buildup of static electricity could discharge the probes.									/				/				
Weapon safety																	
The CEW looks like a firearm, so treat it like a firearm; observe standard firearm/sidearm safety guidelines. (TI v.11, v.12, v.13)			/					/	/		/		/	/		/	/
Treat this as a loaded weapon. (TI v.12, v.13, v.14)	/	/	/	/	/	/			/	/	/		/	/	/	/	/
Remove the cartridge; visually and physically inspect the weapon to ensure it is safe; exercise muzzle control.									/				/				
Other considerations: CEW dependence																	
Avoid CEW over-dependence: some agencies have had so much success with CEW devices that officers sometimes neglect proper procedures and other force options. This is a training issue that must be addressed in all instructor and user courses. It should also be emphasized in ongoing department training. (TI v.13, v.14)	/	/			/	/					/			/	/		/
It is recommended that officers responsible for reviewing CEW use reports be cognizant of potential for over-dependence and address any concerns of CEW over-dependence early. (TI v.14)	/	/			/	/									/		

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

2. CIRCUMSTANCES IN WHICH CEW DEPLOYMENT IS PROHIBITED															
	Municipal Police Forces													Other Agencies	
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	Strathlinx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections
Nothing is ever 100% effective so do not become CEW dependent. (TI v.12)			/	/					/	/					/
No force option is 100% effective.							/						/		

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

3. STEPS PRIOR TO CEW DEPLOYMENT																	
	Municipal Police Forces													Other Agencies			
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	Stl'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections	RCMP	Sheriffs
Lethal or backup cover																	
Always take advantage of cover and distance.									✓				✓				
Lethal cover or appropriate force oversight should be present, when possible. (TI v.12, v.13, v.14)	✓	✓	✓	✓	✓	✓	✓			✓	✓			✓	✓	✓	✓
Whenever possible have at least one backup officer present to cuff suspect. (TI v.12, v.13, v.14)	✓	✓	✓		✓	✓			✓		✓		✓	✓	✓		✓
Use cover and distance to ensure officer safety. (TI v.12, v. 13, v.14)	✓	✓	✓		✓	✓					✓			✓	✓		✓
Use of CEW as a “force presence” prior to discharge																	
Prior to discharge, an officer may use implied use-of-force tactics to try to gain compliance, such as the spark test or spark demo (removing the cartridge and arcing the weapon); and painting the target with the CEW laser. (TI v.12, v.13, v.14)	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓	✓
Consider a spark demo if other CEW devices are present or the subject is contained. (TI v.13)				✓						✓	✓			✓		✓	✓
Verbal commands																	
If practicable, officers must attempt to gain compliance using verbal commands. (TI v.12, v.13, v.14)	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Verbal warnings are important to prevent sympathetic reflex firing response from other officers. (v.12)			✓						✓				✓				
Content of verbal warning																	
“TASER! TASER!” (TI v.12)			✓										✓		✓		✓
“TASER, TASER, TASER!”									✓								
Use a command other than “Shoot!” such as “Deploy!” (TI v.12)			✓														

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

4. STEPS DURING CEW DEPLOYMENT															
	Municipal Police Forces												Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	Strathlinx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections
General															
Officers should provide verbal commands during and after the CEW application. (TI v.12)			✓												
CEW deployment protocol: probe mode															
Probe hits are more desirable than stun mode because probe hits are more effective (neuromuscular incapacitation [NMI] vs. pain compliance), can be applied from a safer distance, usually require fewer cycles, and fewer injuries result. (TI v.13, v.14)	✓	✓			✓	✓					✓			✓	✓
Aiming and distance considerations															
Training materials include general guidelines about probe distance and spread considerations. (TI v. 11, v.12, v.13)			✓	✓			✓	✓	✓	✓	✓		✓	✓	✓
Aim CEW like a standard firearm at centre of mass. (TI v.11, v.12, v.13)			✓	✓				✓		✓	✓			✓	✓
Aim CEW at target—centre of mass or legs. (TI v. 14)	✓	✓			✓	✓								✓	
Use sights and/or laser. (TI v.11, v.12, v.13)			✓	✓				✓		✓	✓			✓	✓
A general spread consideration is 1 foot (0.3 m) of spread for every 7 feet (2.1 m) of travel. (TI v.11, v.12, v.13)			✓	✓				✓		✓	✓			✓	✓
Greater probe spread increases effectiveness. (TI v.12, v.13, v.14)	✓	✓	✓		✓	✓					✓			✓	✓
If possible, aim for a minimum 4-inch spread. (TI v.12, v.13, v.14)	✓	✓	✓		✓	✓					✓			✓	✓
Hold the CEW vertically unless subject is laying down or at an angle. (TI v.12, v.13, v.14)	✓	✓	✓		✓	✓					✓			✓	✓
Primary CEW targets include torso (centre of mass) back and shoulders, buttocks, hips, legs.							✓		✓						
The entire back is a good target for the CEW. (TI v.12, v.13, v.14)	✓	✓	✓		✓	✓			✓		✓		✓	✓	✓
The back is a good target because clothing fits tighter, there is a surprise factor, the back contains stronger muscles to achieve greater NMI, and avoids sensitive target areas such as eyes and groin. (TI v.12, v.13, v.14)	✓	✓	✓		✓	✓					✓			✓	✓
For deployments from zero to 7 feet (0-2 metres), there is a high hit probability, but limited probe spread and as a result there will be low amounts of muscle mass affected. In addition, there is a short reactionary distance between subject and deployer. Consider targeting area to put one probe above the waist and one below the waist for enhanced effectiveness. (TI v.13, v.14)	✓	✓			✓	✓					✓			✓	✓

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

4. STEPS DURING CEW DEPLOYMENT															
	Municipal Police Forces													Other Agencies	
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	Strathlinx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections
Deployments from 7 to 15 feet (2-4.5 metres) are considered “optimum range” because there is a high hit probability, good probe spread, and therefore a good amount of muscle mass affected. In addition, there will likely be plenty of slack in wires (with 21-foot or 25-foot cartridges), and a good reactionary distance.	/	/			/	/			/		/			/	/
(TI v.13, v.14)															
Deployments from 15 to 35 feet (4.5-10.67 metres) have a fair hit probability with both probes, a large probe spread, and a large amount of muscle affected.	/	/			/	/					/			/	/
There is less slack in wires and a large reactionary distance. (TI v.13, v.14)															
CEW deployment protocol: drive-stun mode															
Drive-stun mode is a pain compliance tool, and this mode does not cause NMI. (TI v.12, v.13, v.14)	/	/	/		/	/					/	/		/	/
The drive-stun can be used when in close proximity to subject. The muzzle of the CEW is pressed to the subject’s body.												/			
Stun mode is deployed by pressing the CEW onto preferred push-stun locations using the overhand grip technique.				/						/					/
Because of the potential for the stun to slide off of the subject, officers frequently find themselves in prolonged struggles with violent suspects whom they end up drive-stunning several times in several different locations. This often results in multiple discharges and numerous signature marks and scratches on the suspect’s body. It is in these types of scenarios that officers often face accusations of excessive force. Although officers are usually justified in their use of force and the CEW device in these cases, many of them could have avoided problems by using probes to incapacitate the suspect and allow fellow officers to restrain him without further struggles. Officers will not always have the option of using probes. When this is the case, they should attempt to target the drive-stun to appropriate pressure points in an attempt to get the suspect restrained as quickly as possible.	/	/			/	/					/			/	/
(TI v.13, v.14)															
Effective drive-stun target areas															
Carotid area. (TI v.12, v.13, v.14)	/	/	/		/	/					/			/	/
Brachial artery area. (TI v.12, v.13, v.14)	/	/	/		/	/					/			/	/
Brachial plexus tie-in. (TI v.12, v.13, v.14)	/	/	/		/	/					/			/	/
Radial. (TI v.12, v.13, v.14)	/	/	/		/	/					/			/	/

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

4. STEPS DURING CEW DEPLOYMENT																	
	Municipal Police Forces														Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	Strat'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections	RCMP	Sheriffs
Pelvis. (TI v.12, v.13, v.14)	/	/	/		/	/	/		/		/		/	/	/		/
Common peroneal. (TI v.12, v.13, v.14)	/	/	/		/	/					/			/	/		/
Upper mid calf. (TI v.12, v.13, v.14)	/	/	/		/	/					/			/	/		/
Large muscle masses and nerve endings.							/		/				/				
Below the cervical portion of the spine is the thoracic vertebrae which continues to the lower lumbar. This area is protected by large muscles and provides a good area for push-stuns.									/								
Do not hold on to live cartridge while applying a drive-stun because if cartridge gets within 2 inches of CEW or suspect it may deploy. (TI v.12, v.13, v.14)	/	/	/		/	/			/		/			/	/		/
If the drive-stun is not effective at first instance, officers may consider an additional cycle. (TI v.12, v.13, v.14)	/	/	/		/	/					/			/	/		/
If drive-stun is not effective, evaluate location, consider an additional cycle to a different pressure point, or consider alternative force options. (TI v.12, v.13, v.14)	/	/	/		/	/			/		/	/	/	/	/		/
Someone in a mental-health crisis state, under the influence of a mind-altering substance, or extremely focused are prone to “mind-body disconnection.” If only the push-stun mode is used, the CEW becomes a pain compliance technique with limited threat reduction potential for subjects at the high end of the three mind-body disconnect categories. Push the drive-stun aggressively into the subject for best results.									/								
CEW deployment protocol: drive-stun with cartridge mode																	
Probe deployment with a drive-stun follow-up is suggested for probe hits that are close together or for when only one probe makes contact with the subject. (TI v.13, v.14)	/	/			/	/					/			/	/		/
Probes released during a drive-stun with cartridge can help maintain contact with a violent suspect. (TI v.12, v.13, v.14)	/	/	/		/	/	/		/		/		/	/	/		/
Officer may subsequently apply a drive-stun away from probes to achieve NMI. (TI v.12, v.13, v.14)	/	/	/		/	/	/		/		/		/	/	/		/
Length of cycle																	
Single trigger pull discharges current for 5-second cycle. (TI v.12, v.13, v.14)	/	/	/	/	/	/	/		/	/	/		/	/	/	/	/
A full 5-second cycle deployment should be applied without interruption (unless circumstances dictate otherwise). (TI v.12)			/														

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

4. STEPS DURING CEW DEPLOYMENT																	
	Municipal Police Forces														Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	Strat'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections	RCMP	Sheriffs
Move safety switch down (SAFE) to immediately stop a discharge (e.g. , if the CEW is accidentally discharged). (TI v.12, v.13, v.14)	/	/	/	/	/	/			/	/	/		/	/	/	/	/
Although some officers shut off the unit before completion of the first 5-second cycle, officers should let the CEW run the full cycle in order to reduce the probability of a field failure. (TI v.12)			/														
Trigger pulls during the 5-second cycle will not affect the cycle unless held continuously. (TI v.12, v.13, v.14)	/	/	/	/	/	/			/	/	/		/	/	/	/	/
Holding the trigger continuously beyond the 5-second cycle will continue the electrical discharge until trigger is released. The discharge will cease immediately once the trigger is released. (TI v.12, v.13, v.14)	/	/	/	/	/	/			/	/	/		/	/	/	/	/
CEW operator should be prepared to apply additional cycles if necessary. (TI v.12)			/														
Do not hold the trigger continuously beyond the 5-second cycle.													/				
Controlling/cuffing under power																	
Each CEW cycle is a “window of opportunity” to attempt to establish control and restraint while the subject is affected or incapacitated by the CEW cycle. (TI v.12, v.13, v.14)	/	/	/		/	/					/	/	/	/	/		/
Cuffing under power is important because there are those who may not comply with verbal commands following CEW cycle (such as EDPs [emotionally disturbed persons], focused or intoxicated persons, and individuals suffering from excited delirium.) (TI v.13, v.14)	/	/			/	/					/			/	/		/
Cuffing under power is important because it may prevent the need for multiple CEW cycles. (TI v.13, v.14)	/	/			/	/					/	/		/	/		/
Officers need to subdue and cuff without hesitation, and can touch and handcuff the subject while the CEW is active. (TI v.12)			/														
Officers should move in and control the subject while the CEW device is cycling and the subject is incapacitated when it is reasonably safe to do so. (TI v.13, v.14)	/	/			/	/	/				/			/	/		/
A second officer gains control and handcuffs during the CEW cycle.													/				
Always handcuffed to rear.									/				/			/	

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

4. STEPS DURING CEW DEPLOYMENT															
	Municipal Police Forces													Other Agencies	
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	Strathlinx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections
Other considerations and tactics															
Wires can break easily if stepped on or pulled; inadvertent contact with wires or the probe during discharge can result in electrical shock; CEW operators should advise officers to avoid wires during restraint for wire integrity. (TI v.12, v.13, v.14)	/	/	/	/	/	/	/			/	/		/	/	/
Avoid crossing wires when multiple CEW devices are deployed. (TI v.12, v.13, v.14)	/	/	/		/	/				/		/	/	/	/
Note that the effect of contact with a wire or probe while taking a suspect into custody is relatively minor and will not cause NMI to the officer. Usually, officers will instinctively pull their hand away. It is recommended that officers grab the suspect in a different area, away from the probes and the wires; operators should lift the wires off the ground and may have to walk forward if the subject falls or is running. This may prevent the wires from breaking.													/		
The CEW operator must keep sufficient slack in wires and move with the subject if they start to roll. (TI v.13, v.14)	/	/			/	/	/			/			/	/	/
Officers must run with the subject if they are to utilize the CEW against a running target.									/						
If there is only one probe hit or low spread after CEW deployment, consider a drive-stun follow-up. (TI v.13, v.14)	/	/			/	/				/			/	/	/
Deploy the CEW with a second air cartridge available or have a second CEW nearby. If first shot fails or misses, obtain cover to reload or resort to another tactic; if suspect charges, "C" step and aggressively use the drive-stun mode. (TI v.12, v.13, v.14)	/	/	/		/	/				/			/	/	/
If air cartridge is a "dud," (does not deploy) keep weapon aimed upon target while placing the CEW on SAFE. (TI v.12, v.13, v.14)	/	/	/	/	/	/				/	/		/	/	/
If air cartridge is a "dud," discard immediately, reload with new cartridge, and re-engage target; do not attempt to reuse a dud. (TI v.12, v.13, v.14)	/	/	/		/	/				/			/	/	/
When evaluating the effectiveness of a CEW deployment, look for the subject's reaction including change in behaviour, falling to the ground, and going rigid; and listen to the sound of the CEW device because no sound may indicate a good connection, loud arcing at the weapon may indicate no connection, and intermittent arcing at the weapon may indicate a poor connection (due to, for example, clothing disconnect). (TI v.12, v.13, v.14)	/	/	/		/	/			/		/		/	/	/

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

4. STEPS DURING CEW DEPLOYMENT																	
	Municipal Police Forces														Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	Stl'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections	RCMP	Sheriffs
If there is no reaction or change in subject behaviour, this could indicate poor or no connection, low probe spread, or low muscle mass contact. Suggested tactical considerations to deal with such a situation include reloading and targeting a different area, deploying a drive-stun with a cartridge in place and consider other force options. (TI v.13, v.14)	✓	✓			✓	✓					✓			✓	✓		✓
The CEW electrical current is relatively quiet in actual human use. Practice targets are loud since the energy is arcing in the air.				✓						✓						✓	
In dealing with suicidal subjects, follow department basic officer safety rules/training and establish lethal cover as needed. (TI v.12, v.13, v.14)	✓	✓	✓		✓	✓					✓			✓	✓		✓
Common effects of NMI that results from CEW probe deployment upon a subject																	
Subject can fall immediately to the ground. (TI v.11, v.12, v.13, v.14)	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓
Yelling or screaming. (TI v.11, v.12, v.13, v.14)	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓
Involuntary muscle contractions. (TI v.11, v.12, v.13, v.14)	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓
Subject may freeze in place with legs locked. (TI v.11, v.12, v.13, v.14)	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓
Most subjects will not fall down. The majority freeze in place, and shake.									✓				✓				
Subject may feel dazed for several seconds/minutes. (TI v.11, v.12, v.13, v.14)	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓			✓	✓	✓	✓
Potential vertigo. (TI v.11, v.12, v.13, v.14)	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓
Temporary tingling sensation. (TI v.11, v.12, v.13, v.14)	✓	✓	✓	✓	✓	✓		✓		✓	✓			✓	✓	✓	✓
May experience critical stress amnesia. (TI v.11, v.12, v.13, v.14)	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓
May not remember any pain. (TI v.11, v.12, v.13, v.14)	✓	✓	✓	✓	✓	✓		✓		✓	✓			✓	✓	✓	✓
May urinate and/or defecate, but usually this happens only if the subject is actively holding his/her bladder, etc.									✓				✓				
Generally does not cause urination or defecation.				✓						✓						✓	
Does not cause “electrocution” in wet environment.				✓						✓						✓	

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

5. MULTIPLE OR PROLONGED DEPLOYMENTS																	
	Municipal Police Forces													Other Agencies			
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections	RCMP	Sheriffs
General concerns																	
The application of the CEW is a physically stressful event. (TI v.12, v.13, v.14)	/	/	/	/	/	/				/	/			/	/	/	/
Continuous exposure risks. When practical, avoid prolonged or continuous exposure(s) to the CEW device's electrical discharge. In some circumstances, in susceptible people, it is conceivable that the stress and exertion of extensive repeated, prolonged, or continuous application(s) of the CEW device may contribute to cumulative exhaustion, stress, and associated medical risk(s). (TI v.14)	/	/			/	/									/		
Tests show that there are no adverse effects on heart function or respiration deriving from multiple or prolonged deployments. (TI v.14)	/	/			/	/	/								/		
CEW applications directly across the chest may cause sufficient muscle contractions to impair normal breathing patterns. While this is not a significant concern for short (5-sec.) exposure, it may be a more relevant concern for extended duration applications. (TI v.12, v.13)			/	/						/	/			/		/	/
Prolonged application of CEW may affect breathing as subjects generally do not breathe during cycles.									/				/				
Current human studies have concluded that CEW applications directly across the chest do not impair normal breathing patterns. (TI v.14)	/	/			/	/									/		
Although existing studies on conscious human volunteers indicate subjects continue to breathe during extended CEW device applications, it is conceivable that the muscle contractions may impair a subject's ability to breathe. (TI v.14)	/	/			/	/									/		
The TASER M26 was applied directly to the chest of experimental animals without causing heart failure during tests at the University of Missouri.				/						/						/	
Using "worst case" scenarios, cardiac safety experts found no induction by the TASER M26 of abnormal heart rhythms.				/						/						/	
No arrhythmia provocation occurred even when animals were given stimulant drugs epinephrine and isoproterenol, which make the heart more susceptible to electrical stimulation.				/						/						/	
Protocol for multiple deployment																	
Avoid extended or repeated CEW device applications where practicable. (TI v.12, v.13, v.14)	/	/	/	/	/	/				/	/			/	/	/	/
Do not hold the trigger continuously beyond the 5-second cycle.													/				

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

5. MULTIPLE OR PROLONGED DEPLOYMENTS															
	Municipal Police Forces													Other Agencies	
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	Strathlinx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections
Three distinct cycles is the maximum before transitioning to a new force option.													✓		
The CEW operator should use an additional 5-second cycle if the subject resists, and can anticipate a second or third application. (TI v.12)			✓												
The decision to cycle the CEW must be based on situational factors.							✓								
Although there is no predetermined limit to the number of cycles that can be administered to the subject, officers should only apply the number of cycles reasonably necessary to allow them to safely approach and restrain the subject. (TI v.12, v.13, v.14)	✓	✓	✓	✓	✓	✓				✓	✓			✓	✓
Officers should only apply the number of cycles reasonably necessary to allow them to safely restrain the subject.				✓						✓					✓
If circumstances require extended duration or repeated discharges, the operator should take care to observe the breathing patterns of the subject and provide breaks in the CEW stimulation when practicable. (TI v.12, v.13, v.14)	✓	✓	✓	✓	✓	✓		✓		✓	✓			✓	✓
Dual CEW exposures (occurring for example when two officers were unaware that the other's CEW was being deployed): if both applications occur on the upper body, officers are to limit exposures to a maximum of three, because breathing issues can be compounded by chest contractions.													✓		
Allow gaps between the cycles and avoid long continuous cycles.									✓				✓		
If a third cycle is required, consider another force option.									✓				✓		
Do not fire the CEW for more than 10 full 5-second cycles in a 10-minute period.															✓
Due to the risk of overheating and to preserve the life of training weapons, the TASER M26 should be limited to a maximum of 10 back-to-back 5-second cycles during training. This limitation does not apply to field use. The TASER X26 does not overheat and no training restrictions apply. (TI v.13, v.14)	✓	✓			✓	✓					✓			✓	✓
If a drive-stun is not effective at first instance, officers may consider an additional cycle. (TI v.12, v.13, v.14)	✓	✓	✓		✓	✓					✓			✓	✓
If drive-stun is not effective, evaluate location, consider an additional cycle to a different pressure point, or consider alternative force options. (TI v.12, v.13, v.14)	✓	✓	✓		✓	✓			✓		✓	✓	✓	✓	✓

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

6. STEPS FOLLOWING CEW DEPLOYMENT—MEDICAL															
	Municipal Police Forces													Other Agencies	
	Abbotsford	Central Saanich	Delta	Kitsao	Nelson	New West	Oak Bay	Port Moody	Saanich	Stratford Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections
General protocol															
Officers should evaluate the need for medical attention as they would with any other use-of-force incident, as directed by department policy. (TI v.12, v.13, v.14)	/	/	/		/	/					/			/	/
Under all circumstances, the subject will be evaluated by EHS.									/			/	/		
Once the subject is restrained officers should evaluate the need for medical attention for the underlying chemical or mental conditions observed. (TI v.13, v.14)	/	/		/	/	/				/	/			/	/
Once the subject is restrained and controlled, they are placed in a seated position and evaluated by EHS.												/			
When the CEW is used in the field, the controlled, compliant subject is to be sat upright whenever possible.									/			/	/		
If the subject is not moving or unconscious, they will be placed in the recovery position and a priority ambulance will be requested.									/			/	/		
Try to minimize the amount of time the subject stays on his/her stomach.									/						
The ideal recovery position is left side down.									/						
Once the subject is in custody, seek appropriate medical attention and point out puncture sites.									/						
If a subject is hit in the eye with a probe, get immediate medical assistance.													/		
At least one officer should accompany subject to the hospital and brief the paramedics on the situation and effects of the CEW.				/					/	/					/
Probe removal															
TASER International advises each agency to establish its own policy on probe removal. (TI v.13, v.14)	/	/			/	/			/		/		/	/	/
Included in training materials is a TASER International poll about how different jurisdictions in the United States deal with probe removal. In this study, 64% of departments allow officers to remove probes; 23% of departments require medics to remove probe; and 13% of departments require hospital care workers to remove probes. (TI v.13, v.14)	/	/			/	/					/			/	/
Ensure that client is fully controlled prior to removing the probes.				/						/					/
Treat probes that have penetrated the body as contaminated needles and use gloves. (TI v.12, v.13, v.14)	/	/	/	/	/	/			/	/	/		/	/	/

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

6. STEPS FOLLOWING CEW DEPLOYMENT—MEDICAL																	
	Municipal Police Forces														Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections	RCMP	Sheriffs
Exercise care during probe removal by keeping your free hand clear of the probe area to ensure you do not scrape yourself with the contaminated barb. (TI v.12, v.13, v.14)	/	/	/		/	/					/			/	/		/
Grab the probe firmly and pull straight out in quick fashion, using your free hand as a brace. Follow with an alcohol or iodine swipe. (TI v.12, v.13, v.14)	/	/	/		/	/			/		/		/	/	/		/
Whoever removes the probe must check the probe body and insure that the probe is intact and that the straightened needle is still attached to the probe body. There have been reported cases in which the probe was removed from a body but the pin/straightened needle pulled free of the probe body and remained in the skin. Needle-nose pliers will be required to remove this to get a firm grip, or by hemostat, by EMS or hospital. (TI v.14)	/	/		/	/	/				/					/	/	
There have been reported incidents where the barbed tip broke off and only the small barb remained in the skin. In this instance, the barbed tip would behave similar to a small metal splinter; however, removal by medical staff is still advised. (TI v.14)	/	/			/	/									/		
If the CEW was used in probe mode, a member currently certified in first aid may remove the probes. It is not necessary to have a medically trained person examine the individual, unless a probe is lodged in a sensitive part of the body, such as the eye or the groin, or the individual's physical condition warrants medical attention.				/						/						/	
If probes are located in a medically sensitive location (groin, eye, etc.) ALWAYS transport to hospital for removal by a medical doctor.												/					
Probe disposal																	
Use surgical gloves to “encase” the cartridge and probes.									/								
Use spent cartridge for probe storage.									/				/				
Properly dispose of probes in a sharps container.									/				/				
Carefully place used probes sharp-tip first into either a sharps container or into the cartridge side wire pocket container, secure in place, and place in a secure location where no one will accidentally touch probes (even after training exercises). (TI v.12, v.13, v.14)	/	/	/		/	/			/		/		/	/	/		/

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

7. STEPS FOLLOWING CEW DEPLOYMENT—PROCEDURAL															
	Municipal Police Forces													Other Agencies	
	Abbotsford	Central Saanich	Delta	Kitsao	Nelson	New West	Oak Bay	Port Moody	Saanich	Strathlinx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections
General															
Each law enforcement agency is an expert in and responsible for its own post-deployment policies and procedures. (TI v.14)	/	/			/	/								/	
Law enforcement agencies are not liable for product liability litigation. (TI v.14)	/	/			/	/								/	
Liability exposure related to use of force, policy, training, and use-of-force related injuries/deaths are the responsibility of each law enforcement agency. (TI v.14)	/	/			/	/								/	
Legal articulation is the ability to explain the situational factors, your perception and risk assessment of a situation, and relate continually to the IM/IM, RCMP policy, and the <i>Criminal Code</i> .				/						/					/
Evidentiary protocol															
Collect expended cartridge and place into evidence. (TI v. 12, v.13, v.14)	/	/	/		/	/					/			/	/
Collect expended cartridge and place into evidence as directed by department policy. (TI v.12, v.13, v.14)	/	/	/		/	/			/		/		/	/	/
Collect expended probes and place into evidence as directed by department policy. (TI v.12, v.13, v.14)	/	/	/		/	/			/		/		/	/	/
Use surgical gloves to “encase” the cartridge and probes.									/						
Collect expended anti-felon identification tags (AFIDs) and place into evidence as directed by department policy. (TI v.12, v.13, v.14)	/	/	/		/	/				/			/	/	/
AFIDs do not need to be collected as evidence.													/		
There are at least 20 AFID tags per cartridge, and the serial number is matched to the cartridge. AFIDs have been used to validate an officer’s story.				/					/	/			/		/
AFIDs are not generally collected but may be relevant for crime scene investigation.				/						/					/
Several agencies have either changed their policies or are considering doing so as it relates to collecting cartridges, probes, and AFIDs as evidence because they have determined they are of little evidentiary value in most cases. It should be noted that much can be determined by close examination of probes and wires. This would be of particular importance in cases where a CEW device did not incapacitate a subject and officers had to resort to deadly force. (TI v.14)	/	/			/	/								/	
The CEW coordinator provides monthly statistics on CEW use.												/			

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

7. STEPS FOLLOWING CEW DEPLOYMENT—PROCEDURAL															
	Municipal Police Forces													Other Agencies	
	Abbotsford	Central Saanich	Delta	Kitsoo	Nelson	New West	Oak Bay	Port Moody	Saanich	Strathlinx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections
Protocol when the subject is grievously injured or killed															
Do not assume that the medical examiner is familiar with sudden death or excited delirium. (TI v. 13, v.14)	/	/		/	/	/				/	/			/	/
Obtain core body temperature prior to death or as soon as possible after death. (TI v.13, v.14)	/	/		/	/	/		/		/	/			/	/
Ensure that the hospital takes body core temperature, even hours after death.							/								
Collect brain tissue samples for determining chronic drug (especially stimulant) abuse. This process is very time sensitive, as there is only 12 hours to collect, harvest, prepare, and freeze samples. The coroner or medical examiner must contact the University of Miami to do this, at 1 800-UM-BRAIN. (TI v.13, v.14)	/	/		/	/	/	/			/	/			/	/
Discuss with coroner ASAP the concept of brain examination (Miami).							/								
The University of Miami can take brain tissue collected in first 24 hours.							/								
Keep the battery in the device because this will keep the integrity of the internal clock.							/								
Obtain information about whether the device could be heard arcing when it was deployed.							/								
Conduct a physiological autopsy. (TI v.13, v.14)	/	/		/	/	/				/	/			/	/
TASER International recommends that a department spokesperson attend training to understand technology/organize crisis plan for a sudden death. (TI v.14)	/	/			/	/								/	
In the event of a sudden death following the use of a CEW device, refer to the sudden death checklist located in the supporting documents file. (TI v.14)	/	/			/	/								/	
Obtain as much information as possible from the CEW operators involved regarding the incident. (TI v.14)	/	/			/	/								/	
Departments may contact TASER International for medical and legal expert advice. (TI v.14)	/	/			/	/								/	
Departments should never contact TASER International for medical and legal expert advice.				/						/					/
Prepare a media statement and provide the media with information about CEW technology. (TI v.14)	/	/			/	/								/	
If injury or death occurs proximal to CEW exposure, treat the scene like a major crime scene.							/		/				/		

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

7. STEPS FOLLOWING CEW DEPLOYMENT—PROCEDURAL															
	Municipal Police Forces													Other Agencies	
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	Strathlinx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections
If injury or death occurs proximal to CEW exposure engage, in evidence collection/photographs/video.							/		/				/		
Obtain witness statements.							/		/				/		
Seize the weapon or cartridge involved.							/		/				/		
Seize the deceased or injured party's clothing as it can help determine the distance of the shot.							/		/				/		
If an in-custody death (ICD) occurs, warn the public and the media not to jump to conclusions; avoid description as a "taser death"; find out vital ICD details including the time between the CEW deployment and death; and the effectiveness of the CEW system (did it gain compliance?) .							/								
Obtain information about the location of probes and make sure photos are taken including measurements.							/								
Obtain information about the type of CEW use: was it probe or drive-stun deployment?							/								
Obtain information about whether there was other force used.							/								
Obtain information about whether the officer was trained in the system.							/								
Obtain information about whether alcohol or narcotics played a factor in the incident.							/								
Obtain information about the subject's behaviour before and after the exposure.							/								
Complete a dataport download as part of the investigation and evidence collection.							/		/				/		
Download the device within 48 hours of the event.							/								

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

8. VIDEO AND PHOTOGRAPHIC DOCUMENTATION																
	Municipal Police Forces														Other Agencies	
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	Strathlinx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections	RCMP
Take photos of any injuries and place into evidence as directed by department policy. (TI v.12, v.13, v.14)	✓	✓	✓		✓	✓	✓		✓		✓		✓	✓	✓	✓
Obtain information about the location of probes and make sure photos are taken, including measurements.							✓									
TASER Cam																
The TASER Cam can be used with any TASER X26. The TASER Cam replaces the DPM. It allows for 1.5 hours of video and audio, including 50 five-second cycles plus audio and video when fully charged. The video is taken with a 320 X 240 resolution; QVGA Black & White at 10 FPS; MPEG-4 Video/Audio Compression. (TI v.13, v.14)	✓	✓			✓	✓					✓			✓	✓	✓

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

9. REPORTING PROTOCOLS AND REVIEW																	
	Municipal Police Forces													Other Agencies			
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections	RCMP	Sheriffs
Why report																	
Transparency can be vital. Reporting addresses media criticism, educates the community, and provides feedback of success. Most criticism is based on misinformation. Reporting provides the public, risk management, and media with information about department successes supported by actual field results; without this information departments can foment criticism. Reporting also provides measurable success.							✓										
It is advantageous for each department to track the impact of CEW devices on its officers and suspect injury rates, as well as any changes that occur with the use of other force options and citizen complaints. This information can be used to evaluate plans for continued or expanded deployment of CEWs and to respond to claims of CEW abuse. (TI v. 13, v.14)	✓	✓			✓	✓					✓			✓	✓		✓
Reporting protocol																	
A written report is submitted after use as a force presence or implied force, for pain compliance, and when the CEW use causes motor dysfunction.				✓			✓		✓	✓			✓			✓	
Generally, an incident report needs to be filled out when the officer engages in any use of the CEW that changes the subject's behaviour.				✓						✓						✓	
It is necessary to report implied force uses of CEWs. Implied force uses of CEWs include sparking and aiming laser dot on subject. Implied force does not include push-stun or probe deployment, which are considered actual force uses.							✓		✓								
Following CEW use, a use-of-force report will be submitted for the force options section.												✓					
The use-of-force report gives the CEW coordinator a summary of the circumstances for the use and the mode in which it was used.												✓					

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

9. REPORTING PROTOCOLS AND REVIEW															
	Municipal Police Forces													Other Agencies	
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	Strathlinx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections
Other accountability tools															
AFID (anti-felon identification): Every time an air cartridge is fired, it disperses 20-30 identification tags called AFIDs. These tags are printed with the serial number of the cartridge and can be used to determine who fired the cartridge. These were originally created for civilian sales of TASER conducted energy weapons to deter criminal use. As an offshoot of this technology, officers should be aware this system is an additional method of departmental accountability to trace users who are not following department policy and are using the CEW inappropriately; to prevent abuse; and to protect officers from unfounded allegations through solid documentation of usage. (TI v.12, v.13, v.14)	/	/	/		/	/					/		/	/	/
The AFID tags do not need to be collected as evidence. They are primarily for civilian-use tracking in the United States.													/		
AFID tags are not generally collected but may be useful for crime scene investigation.				/						/					/

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

10. EXCITED DELIRIUM															
	Municipal Police Forces												Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	Strathlinx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections
															RCMP
															Sheriffs
Definition															
Excited delirium is defined as “a state of extreme mental and physiological excitement, characterized by extreme agitation, hyperthermia, hostility, exceptional strength and endurance without apparent fatigue” (Morrison and Sadler, 2001). (TI v.11, v.13, v.14)	/	/		/	/	/	/	/			/		/	/	/
Excited delirium is a symptom of an underlying condition; it is not a stand-alone diagnosis. (TI v.11)								/							
Excited delirium occurring as a precursor to sudden in-custody death is not a new phenomenon. (TI v.11)							/	/							
Many conditions requiring immediate medical treatment may result in a state of excited delirium; sudden and unexpected death proximal to restraint is not a rare occurrence; there are approximately 200 deaths every year following police restraint.				/						/					/
Training information on excited delirium is obtained from CPRC research, BCOPCC Final Report, research led by Dr. Christine Hall, MD, and the collective excited delirium articles and papers from Chris Lawrence, MA, (OPC).				/						/					/
Causes															
Causes of excited delirium: psychiatric illness; stimulant abuse; may be a combination of both; alcohol withdrawal; insulin shock/very low blood sugar; head injury; other medical problems.				/						/					/
Death following excited delirium state: medical experts investigating reasons for death—no clear single cause currently known; multi-factorial; usually occurs following struggle and restraint; research is continuous and ongoing.				/						/					/
Physiology															
Excited delirium may involve an organic chemical imbalance in the brain, psychiatric illness, or stimulant abuse. Excited delirium can be caused by hypoxia, hypoglycemia, stroke and intra-cranial bleeding. Excited delirium involves sympathetic nervous system arousal, and is a runaway of the flight-or-fight response (primitive survival response). Excited delirium is associated with an increase in adrenaline/noradrenaline release, an increase in body temperature (hyperthermia), an increase in serum CO ₂ , decrease in blood pH, exertional rhabdomyolysis (lactic acid), heart arrhythmia, and cardiac arrest. (TI v.11)								/					/		

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

10. EXCITED DELIRIUM																	
	Municipal Police Forces														Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections	RCMP	Sheriffs
Sympathetic nervous system arousal; huge increase in adrenaline; an uncontrolled escalation of violent/evasive behaviour—"fight-or-flight" primitive survival increase in body temperature (hyperthermia). The body is managing a series of complex metabolic events at once; the ability to manage decreases over time. Subject may be on the verge of physiologic collapse; limiting the duration of the struggle and expediting medical care may help prevent death.				✓						✓						✓	
We do not know what EXACT physiological factors can lead to death in one circumstance but not in another; we do not know how to predict who will die when or why; you cannot tell who will die by the duration/intensity of the struggle or by the response option used.				✓						✓						✓	
Subject exhibits																	
Bizarre or violent behaviour. (TI v.11, v.12, v.13, v.14)	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		✓	✓	✓	✓	✓
Bizarre, purposeless, and/or aggressive behaviour.				✓						✓						✓	
Violent and/or evasive behaviour (typical).				✓						✓						✓	
Paranoia. (TI v.11)				✓				✓		✓						✓	
Panic. (TI v.11)								✓									
Signs of overheating/disrobing. (TI v.11, v.12, v.13, v.14)	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		✓	✓	✓	✓	✓
Slurring or slowness of speech. (TI v.11)			✓				✓	✓					✓				
Primitive sounds/unintelligible speech.				✓						✓						✓	
Imperviousness to pain/self-mutilation. (TI v.11, v.12, v.13, v.14)	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		✓	✓	✓	✓	✓
Disturbances in breathing patterns or loss of consciousness. (TI v.12, v.13, v.14)	✓	✓	✓		✓	✓					✓		✓	✓	✓		✓
Violence toward/attacking glass, lights, and reflective surfaces. (TI v.11, v.13, v.14)	✓	✓			✓	✓	✓	✓			✓		✓	✓	✓		✓
Breaking glass and/or banging on inanimate objects.				✓						✓						✓	
Superhuman strength and endurance. (TI v.11, v.13, v.14)	✓	✓		✓	✓	✓	✓	✓			✓		✓	✓	✓	✓	✓
Complaints of respiratory difficulty. (TI v.14)	✓	✓			✓	✓									✓		
Lid lift (eyes opening so wide the whites of the eyes are completely visible). (TI v.11)				✓			✓	✓		✓			✓			✓	
Uncontrolled shaking. (TI v.11)							✓	✓					✓				
Disorientation.				✓						✓						✓	

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

10. EXCITED DELIRIUM																
	Municipal Police Forces													Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	Strathlinx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections	RCMP
Hallucination.				/						/						/
Vigorous resistance. (TI v.11)				/			/	/		/			/			/
Flight behaviour. (TI v.11)				/			/	/		/			/			/
Irrational physical behaviour. (TI v.11)				/			/	/		/			/			/
Hyperactivity.				/						/						/
Subject does not respond to verbal direction; ignores police presence.				/			/			/			/			/
Walking and/or running in traffic.				/						/						/
Subject exhibits sudden tranquility; first symptom of death may be tranquility or ragged breathing.				/						/						/
Can occur at any time during or after restraint.				/						/						/
Cannot be predicted based on subject behaviour.				/						/						/
Occurs in police cars, cells, ambulances, and hospitals; majority die at the scene.				/						/						/
Protocol in dealing with excited delirium																
Should one or more of the behaviours manifest, the suspect may require immediate medical assistance due to pre-existing conditions, possible overdose, cocaine psychosis, excited delirium, etc. Consider having EMS standing by. (TI v.12, v.13, v.14)	/	/	/		/	/	/				/		/	/	/	/
When taking a call regarding a possible excited delirium subject, the call-taker should ask the following questions: known history of schizophrenia; mania/bipolar illness; substance abuse; known medical conditions; previous similar incident(s) of an acute agitated state.				/						/						/
This is a medical problem which manifests itself in such a manner that the police are typically the first responders. (TI v.11)								/								
Realize that subjects presenting these signs are in a medical emergency.				/						/						/
The subject must be controlled before they can be treated.				/						/						/
Instruct your officers to watch for these danger signs. If a suspect exhibits any of these signs, get them to medical attention as quickly as possible, as these people are at elevated risk for in-custody death. (TI v.12, v.13, v.14)	/	/	/		/	/					/			/	/	/
Especially when dealing with persons in a health crisis such as excited delirium, it is advisable to minimize the physical and psychological stress to the subject to the greatest degree possible. (TI v.12, v.13, v.14)	/	/	/	/	/	/				/	/			/	/	/

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

10. EXCITED DELIRIUM																	
	Municipal Police Forces														Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	Stl'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections	RCMP	Sheriffs
There can be no medical treatment without restraint. (TI v.11)				/			/	/		/			/			/	
Weigh the need for immediate control against the risk to the subject. (TI v.11)				/				/		/			/			/	
Pre-contact strategies when dealing with those in an excited delirium state: • Keep your distance. • If possible, lower the lights. • Slow your speech and lower your voice. • Slow your physical movements. • Keep your hands visible. • Create distance slowly.							/						/				
Pre-contact strategies when dealing with those in an excited delirium state: • Keep your distance until contact and/or restraint becomes necessary. • Simple and clear commands; understand the subject may not respond. • If tactically feasible, maintain a safe time/distance ratio.				/						/						/	
For effective public and police safety do not: lower the lights, as there is no information to suggest this will alter the excited delirium state; “slow your physical movements”—there is no evidence to support that this will alter an ED state.				/						/						/	
Keep those experiencing excited delirium talking if possible (to cause cognitive pattern interruption). (TI v.11)							/	/					/				
Physical Intervention Strategies Assess the situation and if excited delirium is suspected: • Contact EMS and have them attend (be sure to mention excited delirium as this will bump up their call response). • If reasonable, have a supervisor on scene. • If reasonable, have the EMH team attend. • Have a plan for physical intervention, if required. • Once the subject is restrained, turn them over to EMS immediately.							/						/				
Response strategies for dealing with those in an excited delirium state: • Develop a response strategy prior to deployment of intervention if possible and include EHS (highest level possible) attendance in your strategy. • A coordinated strategy to restrain the subject should include those options that expedite control and subsequent medical treatment. • Prolonged struggle represents increased risks.				/						/						/	

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

10. EXCITED DELIRIUM															
	Municipal Police Forces													Other Agencies	
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	Stratford Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections
The CEW in probe deployment mode may be the most effective response to establish control.				/						/					/
A single CEW deployment made before the subject has been exhausted, followed by an effective restraint technique may provide the optimum outcome.				/						/					/
Persons experiencing excited delirium have a high tolerance for pain so the operational use of a drive-stun may be more of an annoyance than a compliance-gaining tool, and could escalate the level of resistance.													/		
Response strategies: EHS to attend with members; ensure enough members on scene for quick and effective control; consider use of CEW in probe mode for immediate incapacitation to establish control; sufficient members to control arms and legs; handcuff to rear.				/						/					/
Remove the subject from prone position as soon as possible after control is established; if EHS is not at scene and the subject suddenly becomes quiet and stops resisting, advanced life support should be summoned where available, and preparation for CPR should be made; subject to be placed in EHS care as soon as possible for transport to Health Services.				/						/					/
Remember, the maximal prone position may compromise the subjects ability to adequately ventilate following a violent struggle. Therefore, as soon as is possible, place the subject in a supine (partially seated) position. If this is not practicable, at the very least, place the subject on their left side if possible.													/		
Remove the subject from the prone position as soon as possible after control is established: <ul style="list-style-type: none"> • Inform EMS of circumstances. • Do not allow EMS to transport in the maximal prone position. • Go with EMS and brief ER staff. (TI v.11) 								/					/		
Your observations are critical for ER staff to understand what has occurred and treat it accordingly. Your observation and notes cannot adequately be relayed to ER staff by EMS personnel in a timely manner. Therefore, it is important that one officer goes with the ambulance.				/						/			/		/
If there is evidence of chemical/stimulant use, seize as an exhibit as per policy.				/						/					/
If there is any evidence of chemical or stimulant use, obtain a sample if there is any left and turn it over to the ER staff.													/		
If possible, have a supervisor on the scene. (TI v.11)							/	/					/		

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

10. EXCITED DELIRIUM																	
	Municipal Police Forces														Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitsao	Nelson	New West	Oak Bay	Port Moody	Saanich	St'tat'inx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections	RCMP	Sheriffs
Engage in post-incident care of involved officers. (TI v.11)								✓									
ABCs should be monitored continually once the subject is under control.				✓						✓						✓	
Documentation																	
Document the incident. (TI v.11)								✓									
All investigation should be turned over to uninvolved members as soon as possible. (TI v.11)								✓									
Identify witnesses. (TI v.11)								✓									
Obtain core temperature as soon as possible. (TI v.11)								✓									
Discuss with coroner as soon as possible the concept of brain examination. (TI v.11)								✓									
Document any damage caused by the subject. (TI v.11)								✓									
Collect evidence, in particular, any intermediate weapon deployed. (TI v.11)								✓									
Member training regarding excited delirium																	
Training materials submitted include excited delirium bibliographic/research supplementary materials. (TI v.11)								✓					✓				
Training materials submitted address excited delirium. (TI v.12, v.13, v.14)	✓	✓	✓	✓	✓	✓	✓			✓	✓		✓	✓	✓	✓	✓
Training materials submitted do not address excited delirium.									✓								
Excited delirium training is a separate training course.												✓	✓				
“Excited Delirium and Its Correlation to Sudden and Unexpected Death Proximal to Restraint: A Review of the Current and Relevant Medical Literature” by A/Insp. Darren Laur; Victoria Police Department, April 2005. The information contained in this paper should be shared with all first responders and medical care workers who may come into contact with those experiencing excited delirium. If your agency has experienced a sudden and unexpected death proximal to restraint, this paper should also be shared with investigators, coroners, medical examiners, pathologists, and lawyers, or anyone else who is involved in the investigation of the death.													✓				

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

10. EXCITED DELIRIUM															
	Municipal Police Forces													Other Agencies	
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	Strathlinx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections
Modified restraint information															
Training materials contain information about modified restraint tactics and techniques.				✓						✓			✓		✓
Officers no longer engage in “hog tie” restraint.				✓						✓					✓
Officers are trained in waist and leg restraint techniques.				✓						✓			✓		✓

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

11. CEW DEFINITIONS															
	Municipal Police Forces													Other Agencies	
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	Strathlinx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections
General definitions															
CEWs are electronic control devices (ECDs), conducted energy devices (CEDs), or manufactured by TASER International. (TI v.11, v.12, v.13, v.14)	/	/	/		/	/		/			/			/	/
CEW electronic control devices are weapons designed to incapacitate a person from a safe distance while reducing the likelihood of serious injuries or death. (TI v.13, v.14)	/	/		/	/	/				/	/			/	/
CEWs are hand-held electronic immobilizing devices specifically designed to physically incapacitate a subject.									/						
Less lethal/non-lethal															
The CEW is not a substitute for lethal force. (TI v.12, v.13, v.14)	/	/	/	/	/	/				/	/	/		/	/
The CEW is not a replacement for the use of deadly force, but rather can be used in conjunction with deadly force where appropriate and reasonable to do so.				/						/					/
The CEW is a less lethal or lower lethality weapon. (TI v.13, v.14)	/	/		/	/	/			/	/	/			/	/
Lower lethality force is a concept of planning and force application, which meets operational objectives, with less potential for causing death or physical injury than conventional police tactics.				/						/					/
The CEW is a non-lethal weapon. (TI v.11, v.12)			/					/							
U.S. Department of Defense policy defines non-lethal weapons as “weapon systems that are explicitly designed and primarily employed so as to incapacitate personnel or materiel, while minimizing fatalities, permanent injury to personnel, and undesired damage to property and the environment....” It is important to note that Department of Defense policy does not require or expect non-lethal weapons to have a zero probability of producing fatalities or permanent injuries. “Rather, non-lethal weapons are intended to significantly reduce the probability of such fatalities or injuries as compared with traditional military weapons which achieve their effects through the physical destruction of targets.” (Joint Concept for Non-lethal Weapons, United States Marine Corps.) (TI v.12, v.13)			/											/	
Functional definitions: electrical effect on nervous system															
CEWs use propelled wires or direct contact to conduct energy to affect the sensory and motor functions of the nervous system. (TI v.11, v.12, v.13, v.14)	/	/	/	/	/	/		/		/	/			/	/

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

11. CEW DEFINITIONS															
	Municipal Police Forces													Other Agencies	
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	Strathlinx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections
All previous less-lethal weapons have worked on pain compliance that can be overcome by drugs, alcohol, EDPs, or by focused, combative individuals. CEWs in probe mode do not rely on pain to achieve compliance, but override the central nervous system to achieve incapacitation. (TI v.11, v.13, v.14)	/	/		/	/	/		/		/	/		/	/	/
CEWs affect both the sensory and motor nervous systems, causing incapacitation. (TI v.11, v.12, v.13, v.14)	/	/	/	/	/	/		/	/	/	/		/	/	/
The motor nervous system is composed of nerves that carry commands from the brain to the muscles to control movement. (TI v.11, v.13, v.14)	/	/		/	/	/		/		/	/		/	/	/
Neuromuscular incapacitation (NMI) systems stimulate the peripheral nervous system by causing direct stimulation of motor nerves contracting muscles. This stimulation is caused by the short duration, high-voltage electrical impulses that CEWs emit. (TI v.12, v.13, v.14)	/	/	/	/	/	/	/		/	/	/		/	/	/
The sensory nervous system is made of nerves that carry information from the body to the brain about sensory stimulation such as touch, temperature, etc. (TI v.11, v.13)	/	/		/	/	/		/		/	/		/	/	/
Stun systems generate “electrical noise” that the sensory nervous system interprets as pain or discomfort, but does not cause incapacitation; these stun systems are used for pain compliance. (TI v.12, v.13, v.14)	/	/	/	/	/	/			/	/	/		/	/	/
NMI’s incapacitation effects only occur while the weapon is cycling.							/		/				/		

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

12. CERTIFICATION STANDARDS AND METHODS																
	Municipal Police Forces													Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitsao	Nelson	New West	Oak Bay	Port Moody	Saanich	Stratford Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections	RCMP
General training authority																
TASER International does not certify end users. This is left to the individual agencies. (TI v.13, v.14)	/	/			/	/					/			/	/	/
Training material and information specific to the introduction to the CEW is provided by the manufacturer, which also provides certification in the use of its products. Select lead instructors receive Master Instructor certification in the use of CEWs as part of their professional development. These Master Instructors then certify trainers within their own service.																/
The user should complete instruction under the guidance of a certified instructor. (TI v. 13)													/			/
Use-of-force instructors are certified by Sheriff Services and the Justice Institute of BC. (JI)																/
To become a TASER Master Instructor, an officer must attend a TASER Master Instructor School. (TI v.13, v.14)	/	/			/	/					/			/	/	/
TASER Master Instructors may certify others as TASER Instructors by presenting the two-day certification course. (TI v.13, v. 14)	/	/			/	/					/			/	/	/
Materials required for training																
Check the TASER International website 72 hours prior to presenting a class to ensure you are using the most current version of the training DVD and lesson plan, and to review all current training bulletins. (TI v.13, v.14)	/	/			/	/								/	/	/
Duration of the course																
User certification includes 4 hours of training instruction.																/
User certification includes 5 hours of training instruction.													/			
User certification includes 6 hours of training instruction. (TI v.13, v.14)	/	/			/						/			/		
User certification includes 7 hours of training instruction.														/		
User certification includes 8 hours of training instruction.						/						/				
User certification includes 16 hours of training instruction.				/						/						/
Instructor certification includes 14 hours of training instruction.													/			
Instructor certification includes 16 hours of training instruction. (TI v.14)	/	/			/	/									/	

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

12. CERTIFICATION STANDARDS AND METHODS															
	Municipal Police Forces													Other Agencies	
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	Strathlinx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections
Instructor certification includes 32 hours of training instruction.				/						/					/
Excited delirium training is a separate 4-hour course.													/		
Force options training is initially seven days at the recruit level and covers decision-making and use-of-force levels, incorporating all approved use-of-force tools (<i>i.e.</i> , stuns, strikes, control holds, pressure areas, baton, pepper spray, CEW, firearm, handcuffs, etc).															/
Candidate selection															
The CEW user course is open to all department members				/						/			/		/
Members who have completed the user's course, have operational experience with CEWs and are currently in or expect to fill a training capacity within the department are eligible to take the CEW instructor course.													/		
A member interested in becoming a CEW user applies to take the training course.												/			
Any members taking the user course must be currently certified in first aid.				/						/					/
CEW course applicants must be competent with basic force option skills as demonstrated in the field.												/			
Any members taking the user course must be currently certified in the use of the police defensive baton, pepper spray, carotid control technique, and the service pistol. (TI v.13)				/						/					/
To become a TASER Master Instructor requires experience as a TASER Instructor; five years as a sworn officer and/or military service; two years of instructor experience and a minimum of 12 TASER user courses taught. (TI v.13, v.14)	/	/			/	/					/			/	/
Candidates take approved training courses in instructional techniques, etc., and later spend, on average, one to two years in an apprenticeship/mentoring relationship before being certified to take the lead in any use-of-force or firearms training event.															/
Use of the CEW is taught as part of Sheriff Services' Force Options curriculum, training that is provided to every deputy in the province.															/

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

12. CERTIFICATION STANDARDS AND METHODS															
	Municipal Police Forces													Other Agencies	
	Abbotsford	Central Saanich	Delta	Kitsao	Nelson	New West	Oak Bay	Port Moody	Saanich	Strathlinx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections
Sheriff branch instructors are certified through a provincial use-of-force curriculum and instructor certification course under the aegis of the Police Academy, after undergoing a development and training program through which they are selected. Candidates are chosen through a rigorous process involving a work performance check, a screening for suitability, and a panel review of various competencies.															
Instructor to student ratio															
Maximum student to instructor ratio for both user and instructor training is 20:1.															
Maximum student to instructor ratio for user and instructor training is 4:1.															
Maximum student to instructor ratio for user and instructor training is 8:1. (TI v.13)															
Training structure and methods															
Instructional strategies or method of instruction															
Instructors must use the TASER International user course lesson plan in its entirety. (TI v.13, v.14)															
Coursework shall include all topics in user lesson plan, including all drills and functional demonstrations. (TI v.13)															
The instructor courses may utilize a variety of teaching techniques including lecture, guided discussion, demonstration, performance, role plays and scenarios.															
The CEW user course will be taught using lecture, demonstration, and scenario methods. (TI v.13, v.14)															
The CEW user course begins in a classroom setting with an overview of the course. Students receive a CEW manual and are shown a PowerPoint presentation, which is discussed. This is followed by reality-based training.															
Instructor candidates will undergo training which includes advanced technical instruction and teaching evaluations.															
Members will be evaluated individually based specifically on the material covered during the training session.															
CEW user certification involves a classroom review, a test, and reality-based training.															

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

12. CERTIFICATION STANDARDS AND METHODS															
	Municipal Police Forces												Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	Strathlinx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections
Assessment															
Assessment criteria: General															
The HR Training NCO and all of the certified CEW instructors will use the same criteria for evaluating each member. There will be no latitude for subjectivity during the conduct of these evaluations.													/		
Written examination															
A copy of each user's certification test should be kept in department records to validate certification. (TI v.13)													/		
Users must pass a written examination of relevant material covered in training. (TI v.13, v.14)	/	/			/	/					/	/	/	/	/
To certify both instructors and users, written examinations will be of short answer, fill-in-the-blanks, and/or true/false format.	/	/			/	/	/	/	/			/	/	/	/
To certify CEW users, a written examination requires a minimum score of 70% to pass.												/			
Minimum standards to be certified as a user include passing a written test with a minimum score of 80%. (TI v.13, v.14)	/	/		/	/	/				/	/		/	/	/
Minimum standards to be certified as a TASER Instructor include passing a written test with a minimum score of 90%. (TI v.14)	/	/			/	/						/		/	
To be certified as a CEW user, officers must identify components of the CEW on a diagram. (TI v.13, v.14)	/	/			/	/	/	/				/	/	/	/
To be certified as a CEW user, officers must confirm their understanding of how the CEW is utilized on the use-of-force framework.				/			/			/		/		/	/
Functional and scenario-based training															
An user must demonstrate sufficient proficiency in the function and use of the CEW. (TI v.14)	/	/			/	/								/	
Topics from this class will be evaluated via performance checklist during the practical applications conducted during the class. (TI v.14)	/	/			/	/								/	
The member must show competency in all of the practical drills to pass.				/						/					/
Practical tests will be scored Certified (C) or Incomplete (I). A score of Certified (C) will be given for those able to proficiently demonstrate the task without any additional instruction beyond that provided during the training session.												/			

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

12. CERTIFICATION STANDARDS AND METHODS																	
	Municipal Police Forces														Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	Strathlinx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections	RCMP	Sheriffs
Recommended user certification includes firing four CEW cartridges (one simulation cartridge for scenario training is recommended). The user should fire one CEW cartridge during the instruction course and three CEW cartridges during the final test. (TI v.13)														✓			
A standardized certified competency evaluation will be conducted for each member.													✓				
A CEW user should pass the functional tests for certification and re-certification. (TI v.13)											✓			✓			✓
All scenario-based training must be conducted with the use of live simulation (LS) air cartridges only.				✓						✓						✓	
Scenario training evaluation is based on whether the proper approach was used taking into account cover, distance, and scanning tactics; whether there was communication between the officers before, during, and after the incident; whether there was communication with the subject before, during, and after the incident; whether there was the appropriate force used including de-escalation tactics; and whether “TASER, TASER, TASER” was verbalized.				✓						✓		✓				✓	
During CEW deployment users will be evaluated on their approach, distance, verbal commands, firing to target, malfunction/reload/transition, and push-stun.							✓		✓			✓	✓				
The CEW user’s course requires members to go through a minimum of two scenarios, once as a CEW user and once as a backup.												✓					
All members will engage in practical scenario-based certified competency evaluations. (TI v.13, v.14)	✓	✓		✓	✓	✓				✓	✓		✓	✓	✓	✓	✓
Candidates will be given a skill display test and use role playing to ensure they can properly utilize the CEW in an effective and proficient manner. Candidates will be required to demonstrate proper use of the CEW and to explain and provide legal articulation of their actions to the instructor.				✓						✓						✓	
Instructors engage in additional practical scenario training involving preparation and safety; pre-scenario briefing; monitoring and professionalism.				✓						✓						✓	
Simulator training (scenario-based training without live-fire exercises) is a valuable and effective supplemental training tool, but is not a substitute for live-fire exercises required for initial and annual CEW certifications.	✓	✓			✓	✓					✓			✓	✓		✓
Officers learn to fill out use-of-force reports by filling out a practice report based on a video scenario example.				✓						✓						✓	

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

12. CERTIFICATION STANDARDS AND METHODS															
	Municipal Police Forces													Other Agencies	
	Abbotsford	Central Saanich	Delta	Kitsao	Nelson	New West	Oak Bay	Port Moody	Saanich	Strathlinx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections
Remedial training and course failure															
Remedial training will only be given for the practical portion of the course. If a member fails to complete the safe-rip-reload-reassess portion in the required 10 seconds, they may be given one re-test. In the event a member fails the written exam and/or the second practical re-test, the member is to be scheduled for another CEW course. (TI v.13)														✓	
A score of Incomplete (I) will be given for those unable to demonstrate the task after reasonable corrective feedback (three attempts). Those with incomplete will not be certified to carry or operate a CEW. Remedial training will be provided to those requiring it.													✓		
A member can fail the course by failing the exam or by demonstrating confused or poor decision making in the reality-based training.												✓			
Any instructor candidate receiving any evaluation of "Incomplete" will not be certified as an instructor.													✓		
User certification students who do not hit the target during practical testing should be run through aiming drills, and directed to fire again. Users should not be certified until they have passed both firing tests. (TI v.13)														✓	
A CEW user candidate must achieve a competent rating in each component of the course in order to receive credit for the course. Candidates for CEW instructor who do not achieve a competent rating will be given learning assistance as necessary and will be required to take the test over, at the discretion of the facilitators.				✓						✓					✓
Length of certification validity and re-certification requirements															
User certification requires annual re-certification. (TI v.13, v.14)	✓	✓			✓	✓	✓ ⁴	✓ ⁴	✓ ⁴		✓		✓	✓	✓
Follow-up training on the CEW is done as part of the two-year Force Options re-certification process, which is required under the present policy of the branch.															✓
Instructor certification is valid for two years. (TI v.13, v.14)	✓	✓			✓	✓					✓			✓	✓
Re-certifying instructors are required to complete the entire two-day program. (TI v.13, v.14)	✓	✓			✓	✓								✓	✓
TASER Master Instructor certification is valid for two years. (TI v.13, v.14)	✓	✓			✓	✓					✓			✓	✓
Regular members of the RCMP who have successfully completed the CEW user's course must take the re-certification course every year.				✓						✓					✓

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

12. CERTIFICATION STANDARDS AND METHODS																	
	Municipal Police Forces														Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	Strathlinx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections	RCMP	Sheriffs
User re-certification training is 2.5 hours.														✓			
User re-certification is a minimum 4-hour training course.				✓						✓						✓	
User re-certification training is 5 hours.												✓					
Maximum student to instructor ratio for user re-certification is 4:1.				✓						✓						✓	
User re-certification involves scenario training. (TI v.13)									✓					✓			✓
User re-certification includes firing two cartridges. (TI v.13, v.14)	✓	✓			✓	✓					✓		✓	✓	✓		✓
User re-certification is a presentation. (TI v.13)														✓			
User re-certification involves a classroom review, a test, and reality-based training.												✓					
Learning objectives and content																	
Learning objectives																	
The purpose of CEW user training is to ensure that all members are competent in the force context of use and operational deployment of CEWs.													✓				
For the TASER Instructor course, a candidate given persons to be trained and a lesson plan must be able to instruct users in the proper deployment and safety of the CEW. (TI v.14)	✓	✓			✓	✓									✓		
The goals of CEW user training are to increase officer safety, reduce the possibility of serious injury to officers and suspects alike, and to enhance the liability position of the department by conducting certified competency evaluations in this area of police use of force.													✓				
General content guidelines																	
CEW user training includes proper physical deployment techniques and tactics, background information on CEWs, how they physiologically affect a human being, policy and procedures, and the use-of-force context in accordance with the NUFF.													✓				
TASER Instructors and users will be able to articulate policy and procedures in the area of users, state the Force Options context of CEWs in accordance with the NUFF, identify the follow-up procedures associated with CEWs' deployment, and properly administer CEWs and the associated tactics in accordance with certification standards; TASER Instructors will demonstrate an ability to instruct all aspects of the lesson plan. (TI v.13)													✓	✓			

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

12. CERTIFICATION STANDARDS AND METHODS																
	Municipal Police Forces													Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	Strathlinx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections	RCMP
During training officers review the IM/IM and link all discussed scenarios and situations back to the model.				✓						✓						✓
The introduction focuses on technical knowledge, specifications, familiarity with the operating principles, and effectiveness of the device. The actual use-of-force applications and situational training (when to employ the CEW and why) is also incorporated into the context of the other use-of-force tools and broader Force Options training.																✓
Drills training																
CEW handling and pre-deployment drills																
Users will engage in a CEW digital readout test.							✓		✓			✓	✓			
Users must know how to properly check battery pulse rate. (TI v.14)	✓	✓		✓	✓	✓				✓					✓	✓
Users will learn to remove and reinstall battery correctly. (TI v.13, v.14)	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
Users will check and change laser and tac light.							✓									
Users will know how to utilize the laser and fixed sights. (TI v.14)	✓	✓		✓	✓	✓				✓					✓	✓
Users will engage in several repetitions of unholstering and holstering.				✓					✓	✓		✓				✓
The ready drill involves drawing the CEW from its holster, keeping finger off the trigger, pointing the CEW in safe direction, and moving the safety switch to the ARMED position.											✓			✓		✓
Users will know and demonstrate proper finger positions for aiming and firing. (TI v.14)	✓	✓			✓	✓									✓	✓
Users will engage in a spark test drill.							✓		✓			✓	✓			
The objective of the spark drill is to provide each student the practical training to safely and properly operate the safety switch and trigger on the CEW.				✓						✓	✓			✓		✓
User can control unit adequately when commanded "arm-spark-safe" at random; user understands safety switch and trigger fully. (TI v.14)	✓	✓			✓	✓									✓	✓
User will know when the CEW device is armed and ready to deploy. (TI v.14)	✓	✓		✓	✓	✓				✓					✓	✓
The cartridge loading drill requires users to remove batteries, treat the CEW as a loaded weapon, always ensure the safety switch is placed in the SAFE position, keep fingers away from blast doors, point weapon in a safe direction, and keep finger off the trigger.											✓			✓		✓

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

12. CERTIFICATION STANDARDS AND METHODS															
	Municipal Police Forces													Other Agencies	
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	Strathlinx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections
Reload CEW five times in 15 seconds (watch finger position; fingers in front of blast door results in disqualification). (TI v.14)	✓	✓			✓	✓								✓	✓
Users must practice CEW cartridge loading and reloading.				✓			✓		✓	✓		✓	✓		✓
Users must be able to reload in a safe and proper manner. (TI v.14)	✓	✓			✓	✓								✓	
The objective of CEW cartridge loading and reloading drills is to familiarize student with proper loading techniques, considering tactics and safety.											✓			✓	✓
All members will engage in physical practice of ensuring the CEW is operationally ready.													✓		
All members will engage in physical practice of drawing, loading, unloading and reloading air cartridges.													✓		
Users understand how the CEW device overrides and controls the sensory and motor functions of the nervous systems of a subject. (TI v.14)	✓	✓			✓	✓								✓	
All members will engage in physical practice of aiming and sighting the CEW.													✓		
The objective of the aiming drill is to provide adequate practice to familiarize the students with use of the safety switch, laser sight, and verbal commands.											✓			✓	✓
User must understand probe placement and ballistics. (TI v.14)	✓	✓			✓	✓								✓	
Training drills are conducted under stressful conditions that simulate what the officer will encounter in the field in a violent encounter. (TI v.14)	✓	✓			✓	✓								✓	
CEW deployment drills															
All members will engage in physical practice of firing the CEW.				✓						✓			✓		✓
User certification includes firing at least two cartridges. (TI v.13, v.14)	✓	✓			✓	✓					✓		✓	✓	✓
User certification includes firing at least four to six cartridges, including failure drills and scenario drills.				✓						✓					✓
All students will fire several cartridges and will be required to show proficiency in weapon handling and accuracy. (TI v.14)	✓	✓		✓	✓	✓				✓				✓	✓
Firing cartridges during training is important for officer safety because accuracy is critical to the successful deployment of CEWs. (TI v.13, v.14)	✓	✓			✓	✓					✓			✓	✓
Firing cartridges during training familiarizes the user with the functions of the system and tests his or her aptitude. (TI v.13)													✓		

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

12. CERTIFICATION STANDARDS AND METHODS																	
	Municipal Police Forces													Other Agencies			
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	Strat'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections	RCMP	Sheriffs
Through the live-fire drill, users become familiar with the sight, sound, and feel of an air cartridge being deployed; are able to put both probes on a target; and become accustomed to using the fixed sights and laser sight.				✓						✓	✓			✓		✓	✓
User fires the CEW to a static target.							✓		✓			✓	✓				
User fires CEW to a static target without the use of the laser sight.									✓			✓					
Users will draw the CEW, hit a target at 8 feet, reload, hit a second target at 12 feet with laser sight within a 10-second time limit. (TI v.13, v.14)	✓	✓			✓	✓					✓			✓	✓		✓
Users will engage in failure drills.				✓						✓						✓	
Post-deployment drills																	
Users will engage in several repetitions of controlling the subject while being incapacitated by the CEW to handcuffing.									✓			✓					
Proper probe removal technique must be demonstrated and explained. Candidates will have to remove probes from a given target (foam block wrapped with one layer of “inner tube” 0.05 to 0.08 cm thick).				✓						✓						✓	
Learn procedures to properly and safely remove probes from subject. (TI v.14)	✓	✓			✓	✓									✓		
Members shall not remove darts that have punctured the skin of a subject and have remained imbedded; this shall only be done by a qualified medical doctor.														✓			

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

13. CEW ISSUING, MAINTENANCE, AND STORAGE																	
	Municipal Police Forces													Other Agencies			
	Abbotsford	Central Saanich	Delta	Kitsao	Nelson	New West	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections	RCMP	Sheriffs
Identification tags																	
Do not use metal tags: they are conductive and could cause the energy to be redirected back to the user or unit. (TI v.14)	/	/			/	/									/		
Do not use a vibrating etching machine. This could compromise the integrity of the plastic and introduce foreign material into the device's internal components. Instead, apply paper or plastic labels with the serial number or write the serial number on the CEW device in permanent ink. Contact customer service at TASER International for custom engraving. (TI v.14)	/	/			/	/									/		
Testing protocol: spark test																	
The CEW is to be tested routinely by each member by performing a 1-second spark test at the start of each shift, or once every 24 hours. (TI v.12, v.13, v.14)	/	/	/	/	/	/			/	/	/	/	/	/	/	/	/
Perform power and spark test daily, and always after replacing battery tray or charging batteries. (TI v.12, v.13, v.14)	/	/	/	/	/	/			/	/			/	/	/	/	/
All CEWs should be spark-tested prior to field deployment (1 second); never rely on light emitting diode (LED).							/										
Never rely on LED to determine if the CEW is functioning properly; a spark test is necessary.									/				/				
To complete a spark test, place safety switch in the down (SAFE) position, remove the CEW cartridge, place safety switch in the up (ARMED) position, perform spark test for one second and check for rapid pulse rate, return safety switch to the down (SAFE) position, replace cartridge. (TI v.12, v.13, v.14)	/	/	/	/	/	/			/	/			/	/	/	/	/
The officer must look for proper arcing between contact points and listen for any breaks in the spark test.												/					
One spark (1/19th of a second) is adequate. However, this is not a practical duration. As long as the officer sees a visible spark between the electrodes, it is not necessary to extend the duration. In most cases, this requires less than one second. (TI v.13, v.14)	/	/	/	/	/	/			/	/			/	/	/	/	/
The spark test is used to verify the CEW device is working and that the batteries are performing and are adequately charged. Also, there are components in the high voltage section of the CEW that are more reliable when energized ("conditioned") on a regular basis. (TI v.13, v.14)	/	/	/	/	/	/			/	/			/	/	/	/	/

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

13. CEW ISSUING, MAINTENANCE, AND STORAGE																	
	Municipal Police Forces													Other Agencies			
	Abbotsford	Central Saanich	Delta	Kitsao	Nelson	New West	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections	RCMP	Sheriffs
CEW care: maintenance protocol																	
Avoid dropping the CEW as it is a sensitive electronic device. (TI v.12, v.13, v.14)	/	/	/	/	/	/				/	/		/	/	/	/	/
Check batteries and DPM regularly. (TI v.12, v.13, v.14)	/	/	/	/	/	/				/	/		/	/	/	/	/
Always store the TASER X26 with the DPM inserted. Failure to do so can result in corrupted data, clock errors, software problems, and weapon failure. (TI v.12, v.13, v.14)	/	/	/	/		/			/	/	/		/	/	/	/	
Check expiration of CEW cartridges, which expire after five years. (TI v.12, v.13, v.14)	/	/	/	/	/	/				/	/		/	/	/	/	/
Use only recommended batteries. (TI v.12, v.13, v.14)	/	/	/	/	/	/				/	/		/	/	/	/	/
Secure in protective holster, when not in use. (TI v.12, v.13, v.14)	/	/	/	/	/	/				/	/		/	/	/	/	/
Do not store in pockets without holster. (TI v.12, v.13, v.14)	/	/	/	/	/	/				/	/		/	/	/	/	/
Avoid exposing TASER M/X26 to excessive moisture. (TI v.12, v.13, v.14)	/	/	/	/	/	/				/	/			/	/	/	/
If a CEW becomes completely submerged in liquid, return to manufacturer. (TI v.12, v.13, v.14)	/	/	/	/	/	/				/	/			/	/	/	/
If the CEW becomes wet but not completely submerged, turn the safety switch down to SAFE, point the CEW in safe direction and remove the cartridge, remove the battery pack/DPM, dry the CEW thoroughly (for at least 24 hours), reinstall battery pack/DPM, and turn the safety switch up to ARMED. If the CEW discharges without pulling the trigger, remove batteries/DPM and return to manufacturer; complete a spark test for three full 5-second cycles. If the CEW does not function properly, return it to the manufacturer. If the spark test is normal, return the CEW to service. (TI v.12, v.13, v.14)	/	/	/	/	/	/				/	/			/	/	/	/
Occasionally wipe out the CEW cartridge firing bay with dry cloth. Multiple cartridge firings create carbon buildup (particularly after training courses). (TI v.13, v.14)	/	/		/	/	/				/	/			/	/	/	/
Use PDI Super Sani-Cloth (a powerful disinfectant) to wipe down any CEW that gets contaminated by any body fluids. This brand will not damage CEW weapon surfaces. (TI v.13, v.14)	/	/		/	/	/				/	/			/	/	/	/
Periodically check and clean the lens with a cotton swab. (TI v.14)	/	/			/	/									/		
A quarterly clock reset should be conducted. (TI v.13, v.14)	/	/			/	/					/			/	/		/
Recommend conducting a semi-annual download and clock reset (only by authorized/certified RCMP CEW instructors).				/						/						/	
A maintenance log should be kept.									/				/				

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

13. CEW ISSUING, MAINTENANCE, AND STORAGE																	
	Municipal Police Forces														Other Agencies		
	Abbotsford	Central Saanich	Delta	K'tlasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections	RCMP	Sheriffs
Only qualified TASER Instructors are authorized to remove the XDPM or DPM (power source) from the TASER X26.									✓								
TASER M26 model batteries can be recharged without removing the battery tray by plugging the charger directly into the serial dataport. (TI v.12, v. 13, v.14)	✓			✓	✓					✓						✓	✓

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

14. CEW HANDLING (WHILE ON DUTY)																	
	Municipal Police Forces													Other Agencies			
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	Strat'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections	RCMP	Sheriffs
TASER International training outlines pros and cons of holstering as follows (with instruction to refer to own policy):																	
Support-side pros include lower risk of drawing wrong weapon under stress, hip cross draw allows for faster engagement on the target, and easier identification as a CEW by other officers; a con is that there are weapon retention issues depending on training. (TI v.12, v.13, v.14)	/	/	/	/	/	/				/	/			/	/	/	/
A dominant-side-carry pro is weapon retention; a con is that there is a higher risk of weapon confusion, and there are three known incidents of shootings by mistaken weapon. (TI v.12, v.13, v.14)	/	/	/	/	/	/				/	/			/	/	/	/
Materials recommend non-firearm-side holstering.				/			/		/	/			/			/	

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

15. VOLUNTARY EXPOSURE															
	Municipal Police Forces												Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	Strathlinx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections
Voluntary exposure prohibited															
Voluntary exposure is prohibited in practice or in writing.			/			/		/		/	/		/	/	
Voluntary exposure requirement for certification															
Voluntary exposure is not required for instructor or user certification. (TI v.12, v.13, v.14)	/	/		/	/					/			/		/
Benefits of voluntary exposure															
For the purposes of generating confidence, empathy, understanding, and court credibility it is recommended, but not required, that all members experience the effects of a CEW with taped wires to the clothing for a period of 1-5 seconds. Given the force options context of CEWs (low-level intermediate weapon), the fact that the CEW will be deployed with some degree of frequency, and the fact that there are few or no lingering effects, it is important that each member experience the CEW's effects. It is a proven training principle that one can learn as much from "experiencing" as one can from "performing."													/		
Instructor credibility as a leader and subject matter expert; officers can better understand the effects of the device, build confidence to go "hands-on" with a subject without receiving shock, prepare for better self-defence, court expertise, and become prepared to handle the risks of secondary exposures. (TI v.12, v.13, v.14)	/	/			/								/		/
Voluntary exposure is highly recommended for both instructors and users for several reasons. For instructors it increases their credibility among students for understanding and explaining the effects of the weapon. For all users it provides a better understanding of what the subject is experiencing, what their likely reaction will be, and provides the user with own personal understanding of what effect the weapon might have if a subject were to obtain their weapon and use it on the officer. This would become extremely beneficial in court if an officer had to justify use of force to stop a client who was attempting to take the CEW.				/						/					/

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

15. VOLUNTARY EXPOSURE																	
	Municipal Police Forces														Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	Strat'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections	RCMP	Sheriffs
Voluntary exposure also enhances the confidence of both users and instructors. This confidence is required at every CEW deployment. If CEW users, or officers assisting in the arrest during or after CEW deployment, do not have the confidence in their own abilities to function through a deployment, they are compromising the safety of themselves, their partners, and the public. Voluntary exposure assists in ‘rationalizing’ the fear of ‘electrical current.’ After a voluntary exposure, the mind’s-eye says, “I’m still nervous or scared...but I’ve dealt with it and have overcome it and have reasonable certainty that it will not be a hindrance in the execution of my duty.”				/						/						/	
Risks of training injuries																	
Exposure to a CEW causing NMI (neuromuscular incapacitation) is a stressful event for the human body similar to physical exertion from athletic activity, such as weight lifting or wrestling. Risks of injury from physical exertion or falling, while low, are not zero. (TI v.12, v.13, v.14)	/	/		/	/					/			/			/	/
The CEW device can cause temporary loss of motor control and involuntary muscle contractions. In the course of falling to the ground, a person could sustain any of a wide variety of injuries from head concussion to broken bones to dislocated joints, especially if proper use of spotters and holding techniques are not followed. (TI v.12, v.13, v.14)	/	/			/												/
The CEW causes strong muscle contractions which may be severe and may cause physical exertion athletic-type injuries to some people. These muscle contractions may result in injuries to muscles, tendons, ligaments, back, joints, and stress fractures. Therefore, the wires/alligator clips can only be attached to the front torso area of the person.				/						/						/	
A person with a pre-existing injury may face a higher risk of athletic type injury from muscle contraction or falling. (TI v.12, v.13, v.14)	/	/			/												/
The CEW causes pain, which can be stressful. This stress may be injurious to some people.				/						/			/			/	
The two probes impact with a velocity of approximately 165 ft/sec. and are capable of penetrating up to 1/4 inch into the flesh, causing puncture wounds. (TI v.12, v.13, v.14)	/	/			/												/
CEWs can cause minor signature marks on the skin similar to a minor burn in the areas where probes or clips are attached. Also, minor bleeding may occur if the probes penetrate the skin. (TI v.12, v.13, v.14)	/	/			/												/

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

15. VOLUNTARY EXPOSURE																	
	Municipal Police Forces														Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections	RCMP	Sheriffs
Safety precautions prior to exposure																	
Voluntary exposure safety guidelines must be adhered to.				/						/						/	
While adherence to safety precautions for subjects in actual field use cannot always be enforced, it is imperative that extra precautions are strictly adhered to during any volunteer exposure to minimize the possibility of injury. (TI v.12, v.13, v.14)	/	/			/												/
Prior to conducting voluntary exposure to the CEW devices, instructors must review all safety precautions with the class. (TI v.12, v.13, v.14)	/	/			/												/
Every student must read and sign the TASER Safety Rules and Liability Release form. (TI v.12, v.13, v.14)	/	/			/												/
Voluntary exposures to CEW devices should only be conducted by a certified instructor. (TI v.13, v.14)	/	/			/								/				/
CEW instructors conducting voluntary exposure must hold a valid certification in first aid and CPR in the event that the student experiences any undue adverse reaction.				/						/						/	
Any volunteer with concerns over present or past medical conditions should refrain from voluntary exposure. (TI v.12, v.13, v.14)	/	/			/								/				/
Volunteers must notify instructor of any pre-existing injuries, medical conditions, or susceptibilities. (TI v.12, v.13, v.14)	/	/		/	/					/			/			/	/
Volunteers with pre-existing conditions should avoid exposure to injured areas (for example, someone with a back injury should avoid CEW stimulation to the large muscles of the back). (TI v.12, v.13, v.14)	/	/			/												/
Because of parental/guardian consent issues, no minor shall be exposed to a CEW weapon as part of a training course.				/						/						/	
Volunteers should relieve themselves prior to exposure in order to not have stress-related urination. Also, volunteers who are dehydrated or have low blood sugar should hydrate or eat a light snack. (TI v.12, v.13, v.14)	/	/			/												/
Volunteers should stretch and warm up as they would before exercising, including muscles of the back, shoulders, legs, and torso. (TI v.13, v.14)	/	/			/												/
Move furniture and place the volunteer away from sharp objects to ensure a safe place to lower the subject to the ground. (TI v.12, v.13, v.14)	/	/			/												/
Proper matting is required in the exposure area. (TI v.12, v.13, v.14)	/	/		/	/					/			/			/	/
Clear the area of bystanders and objects. (TI v.12, v.13, v.14)	/	/		/	/					/			/			/	/

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

15. VOLUNTARY EXPOSURE																	
	Municipal Police Forces														Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitsao	Nelson	New West	Oak Bay	Port Moody	Saanich	Strat'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections	RCMP	Sheriffs
Do not use or have flammable liquids and fumes in the vicinity during a CEW application. The CEWs can ignite gasoline or other flammables.				/						/						/	
If probes are fired in lieu of attaching spent wires or alligator clips, then eye protection is required for both the spotter and the student being exposed. (TI v.13, v.14)	/	/		/	/					/			/			/	/
Spotters need to support student before and during exposure; support student under the armpit to avoid shoulder rotation.				/						/						/	
The RCMP voluntary exposure protocol only approve the use of alligator clips and/or wires attached/taped to the clothing; eye protection is still required for both the spotters and the student being exposed. Provided that no probes are attached to the person's arms, there should be no electrical pulses flowing into the spotters and they can safely support the person being exposed without any negative impact.				/						/						/	
Volunteer, holders, and any observers within 21 feet of the device must wear eye protection. (TI v.12, v.13, v.14)	/	/		/	/					/						/	/
Safety procedures during volunteer exposure																	
Use floor mats and spotters with proper holding technique to prevent the volunteer from falling hard and getting hurt. (TI v.12, v.13, v.14)	/	/			/												/
Each spotter should hold an upper arm of the standing volunteer under the armpit, so that the person can be safely supported and lowered to the ground after being hit without twisting, rotating, or putting undue stress on the arm or shoulder. (TI v.12, v.13, v.14)	/	/			/								/			/	/
All persons volunteering for a CEW exposure shall either be supported by two spotters so they don't fall or placed face down on the mat prior to exposure. (TI v.13, v.14)	/	/			/								/				/
Electricity will not pass to others in contact with the subject, unless contact is made directly between or on the probes. (TI v.12, v.13)																	/
Provided that no probes are attached to the person's arms, there should be no electrical pulses flowing into the spotters and they can safely support the person being hit without any negative impact. (TI v.13, v.14)	/	/			/												/
Extreme care must be taken to avoid aiming at sensitive areas, especially the eyes, where serious permanent injury could occur. Other sensitive areas that should be avoided during volunteer exposure include the throat, face, and genitals. (TI v.12, v.13, v.14)	/	/			/												/
Have volunteer kneeling or prone.													/				

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

15. VOLUNTARY EXPOSURE															
	Municipal Police Forces													Other Agencies	
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	Strathlinx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections
Probes should be deployed from behind the volunteer. (TI v.12, v.13, v.14)	/	/			/										/
Probe deployments are prohibited.				/						/					/
Optimal safety is to aim for the volunteer's back or legs. There are fewer sensitive areas on the back (eyes, throat, groin, etc.) (TI v.12, v.13, v.14)	/	/			/										/
Instructors should also consider targeting the legs as opposed to the back to further reduce stress to the students. (TI v.14)	/	/			/										/
While having the volunteer stand may be necessary to show the effect of hits to particular parts of the body and certain other tactical considerations, such as close probe deployments and one-probe hits, most exposures can be achieved with the volunteer lying face down on the mat. This may help to reduce the stress to the student. (TI v.14)	/	/			/										
Use the laser sight for increased accuracy. (TI v.12, v.13, v.14)	/	/			/										/
Voluntary exposure content															
Every voluntary exposure should have training value for the entire class. (TI v.14)	/	/			/										
Utilize probe hits to allow students to remove probes; target different parts of the body to show different effects; demonstrate one probe hit with drive-stun follow-up; demonstrate difference between probe hits and drive-stun. (TI v.13, v.14)	/	/			/										/
After demonstrating specific training exposures, remaining hits should be done with the volunteer lying face down targeting the legs, or other areas of the body if necessary to avoid pre-existing injuries. (TI v.12, v.14)	/	/			/										
Voluntary exposure will be conducted with live cartridges equipped with wire/clip attachments only, and they will be attached to the front of the torso and no more than 10 to 14 inches apart.				/						/					/
The voluntary exposure should have a limited duration; a 1-2 second exposure will suffice. This would be similar to receiving an inadvertent electrical shock from the wires during the "hands on" portion of an arrest. One can also say that after feeling the current for 2 seconds, they have an appreciation of how 5 seconds must feel.				/						/					/
A full 5-second cycle exposure may be applied only when the candidate requests it.				/						/					/

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

15. VOLUNTARY EXPOSURE																	
	Municipal Police Forces													Other Agencies			
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections	RCMP	Sheriffs
Group exposure																	
Group exposures are not recommended. (TI v.14)	✓	✓			✓												
Group demo voluntary exposure is prohibited.				✓						✓						✓	
During group exposure, make sure students are all lying down. (TI v.12, v.13)																	✓
Post-exposure safety procedures: probe removal																	
Engage in careful probe removal using proper protocol. (TI v.12, v.13, v.14)	✓	✓			✓								✓				✓
Persons removing probes must wear protective gloves and use standard probe-removal safety precautions. If students are allowed to remove probes, ensure that the supporting hand is well clear of the probe. Also ensure the barb is attached to the probe and has not dislodged in the skin. (TI v.12, v.13, v.14)	✓	✓			✓												✓
The instructor is responsible for ensuring that the host agency or other party provides rubber gloves, alcohol wipes, and bandages for probe removal.	✓	✓			✓												✓

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

16. DATA DOWNLOADING AND INDEPENDENT TESTING																	
	Municipal Police Forces													Other Agencies			
	Abbotsford	Central Saanich	Delta	Kitsao	Nelson	New West	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections	RCMP	Sheriffs
CEW download features																	
The CEW stores the time and date of each firing. (TI v. 12, v.13, v.14)	✓	✓	✓	✓	✓	✓			✓	✓	✓		✓	✓	✓	✓	✓
The CEW dataport can allow the unit to be remotely fired by tactical robots. (TI v.12, v.13, v.14)	✓	✓	✓	✓	✓	✓			✓	✓	✓		✓	✓	✓	✓	✓
Why download																	
The TASER X26 has a dataport function that stores the time and date when it was fired. This data protects officers from claims of excessive use of force by providing documentation of the time and date for each firing. The dataport also provides law enforcement with a powerful management tool to track usage patterns, prevent misuse, and develop ongoing training programs. (TI v. 13, v.14)	✓	✓			✓	✓					✓		✓	✓	✓		✓
The dataport connects the TASER M26 to a computer. By downloading this data, the department can monitor usage patterns. Every officer who is issued an TASER M26 can be held accountable for every firing of the unit. (TI v.12, v.13, v.14)	✓				✓								✓				✓
Data downloading protects officers from unfounded allegations, and maintains officer accountability. (TI v.12, v.13, v.14)	✓	✓	✓	✓	✓	✓				✓	✓			✓	✓	✓	✓
Download protocol																	
The rubber stopper must be in when dataport is not in use. (TI v.12, v.13, v.14)	✓	✓	✓	✓	✓	✓			✓	✓	✓		✓	✓	✓	✓	✓
There is no need to program the weapon to local time or to reprogram the weapon to daylight savings time. (TI v.13, v.14)	✓	✓			✓	✓					✓		✓	✓	✓		✓
The data downloads are saved in encrypted data files that are secure from tampering. This preserves the admissibility of TASER X26 dataport download reports for court admissibility. (TI v.13, v.14)	✓	✓				✓					✓		✓	✓	✓		
If you return a damaged CEW to the manufacturer, download and save dataport info in case that CEW is called into question or litigation in the future. (TI v.12, v.13, v.14)	✓	✓		✓	✓	✓				✓	✓			✓	✓	✓	✓
Should a CEW need to be returned to the factory for any reason, there is the possibility that this unit will be destroyed if it is replaced as a warranty item. The manufacturer does not retain the dataport readouts so it is up to the law enforcement agency to download the unit and save this file as potential evidence. (TI v.12, v.13, v.14)	✓	✓	✓		✓	✓					✓			✓	✓		✓
Remove the cartridge and spark test the weapon prior to download to confirm current time as relative point of reference. (TI v.13, v.14)	✓	✓		✓	✓	✓				✓	✓			✓	✓	✓	✓

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES


16. DATA DOWNLOADING AND INDEPENDENT TESTING																	
	Municipal Police Forces														Other Agencies		
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	St'at'imx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections	RCMP	Sheriffs
The dataport time setting on the TASER X26 can be reset if the DPM is removed for 4 hours or more. Always store with DPM to maintain dataport integrity. (TI v.12, v.13, v.14)	/	/	/		/	/					/			/	/		/
The officer must attend to have the CEW downloaded after a trigger-pull use in line of duty, which does not include the spark test; if over a long period of time the device has not been spark tested; and a minimum of twice a year, six months apart if the device has not been downloaded as described above.												/					
A quarterly download should be conducted. (TI v.13, v.14)	/	/			/	/					/			/	/		/
The CEW user will have the CEW coordinator download and assess the CEW for record-keeping.												/					
Downloads are done through the CEW coordinator in the Force Response Options section or in the Emergency Response Team (ERT) section.												/					
Dataport downloads are done by shift supervisors or CEW coordinator as required.									/								
Data downloads may only be completed by RCMP Master Instructors.				/						/						/	
What downloads capture																	
Download does not differentiate between a contact-stun and probe deployment. (TI v.12, v.13, v.14)	/	/	/		/	/					/	/	/	/	/		/
Each trigger pull of the TASER M26 records the date and time of its most recent 585 firings. (TI v.12, v.13, v.14)	/		/	/	/				/	/			/			/	/
TASER M26 Taser downloads will not provide the duration of the current. (TI v.12, v.13, v.14)	/		/		/								/				/
With the exception of the very first TASER M26 models (serial numbers P0 & P1), several trigger pulls during the 5-second cycle will be recorded as one single trigger pull. This often happens during stressful shootings as officers tend to double and triple tap the trigger as a result of firearms training. This will not affect the duration of the 5-second cycle unless the trigger is depressed after the 5-second cycle has concluded or if the trigger was continuously depressed beyond the 5-second cycle. If the trigger is held down longer than 5 seconds, it will record a separate cycle every 5 seconds. (TI v.12, v.13, v.14)	/		/		/				/				/				/
The time recorded on the TASER M26 model data download report indicates the time the trigger was pulled. (TI v.13, v.14)	/				/												/

COMPARISONS OF CEW TRAINING POLICIES AND PRACTICES

16. DATA DOWNLOADING AND INDEPENDENT TESTING																
	Municipal Police Forces														Other Agencies	
	Abbotsford	Central Saanich	Delta	Kitasoo	Nelson	New West	Oak Bay	Port Moody	Saanich	Strathlinx Tribal Police	Transit Authority Police	Vancouver	Victoria	West Van	Corrections	RCMP
The TASER X26 USB Dataport records the time, date, duration, internal temperature, and battery status of each trigger pull for the most recent 1,500 firings in the TASER's memory (improves on TASER M26). (TI v.13, v.14)	✓	✓		✓		✓			✓	✓	✓	✓	✓	✓	✓	✓
If the trigger is pressed again and held down during the first 5-second discharge, the TASER X26 dataport will count this as one firing period. If the first firing is allowed to stop before the trigger is pressed again, the log will show two separate firings. (TI v.13, v.14)	✓	✓				✓					✓		✓	✓	✓	
The time recorded on the TASER X26 model download log indicates the end of the cycle. (TI v.13, v.14)	✓	✓				✓					✓			✓	✓	
The TASER X26 is programmed to Greenwich Mean Time (GMT). However, the conversion to local time, including adjustments to daylight savings time, are all computed in the PC-based software. The TASER X26 data download reports show the time and date in both GMT and local time. (TI v.13, v.14)	✓	✓				✓					✓		✓	✓	✓	
If the TASER X26 time is ever lost or reprogrammed, the firing log will show the time-change information in the fire log data. (TI v.13, v.14)	✓	✓				✓					✓		✓	✓	✓	

- 1 "TI" refers to TASER International, Inc.'s Training Materials; "v" refers to the version used by Departments.
- 2 Until the provincial review on CEW usage is complete and recommendations have been put forward, West Vancouver has restricted CEW use to situations where an individual is behaving in a combative manner or posing a risk of death or grievous bodily harm to the police or public.
- 3 Until 2006, the JI trained all police recruits on CEW use but this was discontinued when Vancouver decided to conduct its own in-house training, which led the Academy to transfer responsibility for CEW training to individual independent municipal police departments (Submission from Police Services Division, Policing and Community Safety Branch).
- 4 Agency Use-of-Force Policy states that "each officer will be required to qualify at least annually with any firearm or other weapon that the officer is authorized to use." Presumably this includes the CEW; however, there is no specific mention/policy of CEW.

Use of Conducted Energy Weapons by Municipal Police Agencies in British Columbia, 1998–2007



This review of 1,404 reported incidents of conducted energy weapon (CEW) usage by independent municipal police in British Columbia includes descriptions of subject characteristics and behaviours, incident type and location, mode of CEW deployment, use of other force options, subject and officer injuries, arrest status, policy compliance, and public complaints.

Prepared for the Thomas R. Braidwood, Q.C., Commissions of Inquiry

by Karen A. Ryan

October 30, 2008

Table of Contents

LIST OF TABLES.....	459
INTRODUCTION.....	460
METHODOLOGY	460
CONTEXT	461
RESULTS	463
Subject Characteristics.....	467
Type of Incident.....	470
Location of Incident	472
Subject Behaviours/Actions.....	473
Weapons	475
Nature of CEW Deployment.....	476
Use of the CEW in Display Mode	480
Use of the CEW in Stun Mode	480
Use of the CEW in Probe Mode.....	482
Use of the CEW in Stun and Probe Modes	484
Subject Behaviour and the Use of Conducted Energy Weapons.....	485
Use of Other Force Options	487
Injuries and Medical Attention	489
Arrest	490
Policy Compliance	491
Public Complaints Related to Police Use of CEWs	495
Conclusions	496
APPENDIX 1: CEW INCIDENT FILE REVIEW CODING FORM	498

LIST OF TABLES

<i>Table 1: First Implementation of CEWs by Agency by Year.....</i>	<i>462</i>
<i>Table 2: Inventory of CEWs by Agency by Year</i>	<i>462</i>
<i>Table 3: Authorized Strength by Year, 1998 to 2006.....</i>	<i>463</i>
<i>Table 4: Number of CEW Incidents by Year</i>	<i>464</i>
<i>Table 5: Number of CEW Incidents by Agency, 1998–2007</i>	<i>465</i>
<i>Table 6: Number of CEW Incidents by Year in Departments with Most Frequent CEW Usage</i>	<i>466</i>
<i>Table 7: Per Capita CEW Use by Municipal Jurisdiction 2001, 2006</i>	<i>467</i>
<i>Table 8: Subject Age by Age Group, Independent Municipal Police.....</i>	<i>468</i>
<i>Table 9: Subject Race or Ethnicity</i>	<i>469</i>
<i>Table 10: Type of Incident</i>	<i>471</i>
<i>Table 11: Subject Behaviours/Actions.....</i>	<i>474</i>
<i>Table 12: Nature of CEW Use by Agency</i>	<i>477</i>
<i>Table 13: Stun Mode Only CEW Use by Agency.....</i>	<i>478</i>
<i>Table 14: Probe Mode Only CEW Use by Agency</i>	<i>479</i>
<i>Table 15: Number of Times Stun Mode Used by Independent Police Agencies vs. RCMP</i>	<i>481</i>
<i>Table 16: Average, Minimum, and Maximum Stun Deployments by Agency.....</i>	<i>481</i>
<i>Table 17: Average, Minimum, and Maximum Probe Cycles by Agency.....</i>	<i>483</i>
<i>Table 18: Frequency of Stun and Probe Mode Deployments by Agency</i>	<i>484</i>
<i>Table 19: Method of CEW Use by Highest Level of Subject Resistance</i>	<i>486</i>
<i>Table 20: Method of CEW Use Against Alcohol or Drug Intoxicated Subjects.....</i>	<i>487</i>
<i>Table 21: Use of Other Intervention Methods or Use-of-Force Options in Conjunction with CEW Use.....</i>	<i>488</i>
<i>Table 22: Paramedic Examination of Subject at Scene of Incident by Agency.....</i>	<i>490</i>
<i>Table 23: Public Complaints Related to Police Use of CEWs by Agency, 2001 to 2007</i>	<i>495</i>

INTRODUCTION

Phase One (the “Study Commission”) of the Braidwood, Q.C., Commissions of Inquiry sought to answer some basic questions about the use of conducted energy weapons (CEWs) by independent municipal police agencies in British Columbia. Early in its mandate the Study Commission learned that beyond simple counts of CEW usage, no comprehensive details of the characteristics, circumstances, and outcomes of CEW use had been compiled. Therefore, in partial fulfillment of its mandate to “inquire into and report on the use of conducted energy weapons” by “constables of police forces in British Columbia, other than the RCMP,” the Commission undertook the CEW incident file review project.

METHODOLOGY

In April and May 2008, requests were sent to each of the 11 independent municipal police departments,²⁵⁷ plus two tribal police agencies²⁵⁸ and the Greater Vancouver Transit Authority Police Service,²⁵⁹ asking for “CEW incident reports” dating from when the department first equipped its members with CEWs to the present. Each department was also asked to provide information about when CEWs were first acquired by the agency and inventory information about the number of CEWs initially and subsequently acquired.

In order to facilitate and expedite the release of documents to the Commission, Sharon Samuels, Research Counsel, negotiated and signed confidentiality agreements with each of the independent police agencies that ensured that the privacy of individuals involved in CEW incidents (both police and civilians) would be safeguarded by the Commission.

For some departments these requests posed a significant challenge in identifying and retrieving incident reports related to CEW usage.²⁶⁰ Incident reports were identified through multiple database, location, and manual searches. After the initial delivery of documents, several departments identified additional reports by searching for different spellings of key words (such as taser/tazer).²⁶¹

Incident information was provided in four main formats: control tactic reports, use-of-force reports, subject behaviour/officer response reports, and general occurrence reports. In some cases, more than one type of report (such as a use-of-force report and a general occurrence report) was provided. General occurrence reports were requested from some departments when it was determined that the use-of-force reports initially provided did not contain enough information, in particular a narrative or synopsis of the event, about the circumstances of the incident for the purposes of this analysis.

257 Abbotsford, Central Saanich, Delta, Nelson, New Westminster, Oak Bay, Port Moody, Saanich, Vancouver, Victoria, and West Vancouver.

258 Only one of these agencies, the Kitasoo Tribal Police (comprised of a single RCMP officer under contract), had used the CEW. The Stl’Atl’Imx Tribal Police reported no CEW usage.

259 Originally known as the Greater Vancouver Transit Authority Police Service this agency is now known as the South Coast British Columbia Transportation Authority Police Service “GVTAPS or Transit Authority.”

260 Although West Vancouver adopted the CEW in 2001, the department could not locate any CEW incident reports from 2004 and did not know whether there were or were not any CEW incidents in that year. Other departments reported that a few early files had been purged from their systems and no reports could be provided.

261 Notably, among the last reports to be provided, following several inquiries and reminders, were those related to two fatalities associated with CEW use in Vancouver. Additional reports that had not previously been acknowledged were found in the possession of specialized units such as the VPD Emergency Response Team.

A coding form (see Appendix 1) was developed to capture information about subject characteristics and behaviours, incident type and location, mode of CEW deployment, use of other force options, subject and officer injuries, arrest status, and policy compliance. The form was modified somewhat following the coding of approximately 100 incident files. File coding was completed in early September 2008.²⁶²

For the purposes of this research the unit of analysis was defined as “the use of a CEW on an individual during a single event.” If the police incident report(s) described the use of the CEW on more than one subject during a single event a “CEW Incident File Review Coding Form” was completed for each subject and would be counted as multiple instances of CEW use.

The period covered by this review is from December 1998 (when the first use of CEWs occurred during pilot testing of the weapon in Victoria) through to the end of 2007. Some departments provided reports from early in 2008; however, these incidents were excluded from the analysis in order to have a consistent study end date for all agencies.

CEW incident information relating to BC, including incident reports and summaries, was also requested from the RCMP in April 2008; however, a CD-ROM disk containing incident reports was not provided until July 31, 2008, after the Commission had notified the RCMP that the request was being withdrawn due to the inability of the Commission to adequately review these incidents given the time remaining in its Part 1 mandate. Summary information for the entire period of interest was never provided. Fortunately, the Commission for Public Complaints Against the RCMP agreed to reanalyze the RCMP CEW incident database in its possession to provide statistics for BC (“E” Division) for the period January 1, 2002, to January 19, 2008.²⁶³ Where available these CPC figures have been used to compare RCMP CEW usage with the results obtained from the review of independent municipal police agency incidents.

CONTEXT

The following tables provide context for the use of CEWs by independent police agencies. Contextual features include when CEWs were first adopted for use, CEW inventory information, authorized strength figures, and population data for each jurisdiction.

262 Significant research assistance was provided by Jennifer B. Morgan, who completed much of the file coding and provided general research support.

263 Commission for Public Complaints Against the Royal Canadian Mounted Police, “Statistical Analysis of RCMP CEW Usage Reports for British Columbia,” (September 2008).

APPENDIX G

Table 1: First Implementation of CEWs by Agency by Year

Agency	Year
Abbotsford	2000
Central Saanich	2001
Delta	2001
Transit Authority	2007
Kitasoo Tribal	2006
Nelson	2001
New Westminster	2000
Oak Bay	1999
Port Moody	2001
Saanich	2000
Vancouver	2000
Victoria	1998
West Vancouver	2001

Table 2: Inventory of CEWs by Agency by Year

Agency	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Abbotsford			3	3	18	18	25	25	29	30
Central Saanich				2	2	2	2	2	2	2
Delta				3	15	19	23	26	30	34
Transit Authority										20
Nelson				1	1	1	1	1	1	1
New Westminster			3	3	3	9	9	15	15	15
Oak Bay		1	1	3	3	3	4	4	4	4
Port Moody				2	2	2	2	2	6	4
Saanich			3	3	3	3	3	7	8	8
Vancouver			40	40	40	40	40	95	95	95
Victoria	1	4	4	4	4	4	14	12	15	30
West Vancouver				2	5	5	5	5	5	6

Note: Counts are per year and are not cumulative.

Table 3: Authorized Strength by Year, 1998 to 2006

Agency	1998	1999	2000	2001	2002	2003	2004	2005	2006
Abbotsford	137	138	143	148	153	158	173	187	195
Central Saanich	21	21	21	21	21	21	21	21	21
Delta	138	138	138	143	139	141	145	151	151
GVTAPS								75	75
Nelson	17	17	17	17	17	17	17	17	17
New Westminster	105	110	111	106	106	106	107	107	107
Oak Bay	22	22	22	22	22	22	22	22	22
Port Moody	30	31	30	30	32	34	36	40	40
Saanich	133	133	136	138	141	141	144	147	147
Vancouver	1149	1130	1066	1096	1096	1124	1124	1174	1214
Victoria	206	207	211	218	216	211	211	215	221
West Vancouver	77	77	77	77	77	77	79	79	79

Note: Authorized strength refers to authorized police strength as of December 31 of each calendar year and includes sworn members and sworn civilian members assigned to a department. All figures for municipal police agencies provided in the Police Services Division report, *Police Resources in British Columbia, 2006*. For all years the authorized strength figures for Victoria include Esquimalt members although the amalgamation of the Esquimalt Police Department with the Victoria department did not occur until 2003. For the years 1998 through 2002, Esquimalt's authorized strength was 28, 29, 33, 34, and 32, respectively. Figures for 2007 are not yet available, according to the Police Services Division. GVTAPS figures were provided by GVTAPS.

Population statistics for census years 2001 and 2006 for each municipal jurisdiction are provided in Table 7 along with per capita CEW use information.

RESULTS

A total of 1,404²⁶⁴ CEW incidents were reported by the independent police agencies during the period 1998 through 2007. The frequency of CEW use has seen a steady increase since the device was introduced in BC, beginning with Victoria in December 1998. All of the municipal police agencies had equipped their members with CEWs by the end of 2001. In addition, as evident in Table 6, increased frequency of usage has occurred within departments and cannot be attributed to the adoption of CEWs by more departments over time.

During the period January 1, 2002, to January 19, 2008, RCMP members in British Columbia used the CEW on 1,466 occasions.

264 **NB:** The commissioner's report separates the analysis of 1,397 municipal police department incidents, six Greater Vancouver Transit Authority Police Service incidents, and one Kitasoo Tribal Police incident.

Table 4: Number of CEW Incidents by Year

Year	Number of CEW Incidents
1998	1
1999	6
2000	50
2001	54
2002	77
2003	102
2004	223
2005	269
2006	314
2007	308
Total	1404

Table 5 presents the number of reported CEW incidents for each agency.²⁶⁵ Nearly one-half of all incidents occurred in Victoria (48.3%), just over one in five occurred in Vancouver (21.2%), slightly more than one in eight incidents were reported in New Westminster (13.9%), and approximately one in 15 took place in Abbotsford (6.9%). The number of CEW incidents by year for these four departments is listed in Table 6. These departments with the most frequent use of CEWs show the same pattern of year-over-year increase in CEW usage, and all had equipped their members with CEWs by 2001. Nine agencies contributed less than 5 per cent each to the total number of CEW incidents.

²⁶⁵ Note that agency reporting requirements differ somewhat and to an unknown degree the number of reported CEW incidents will reflect the diligence with which the agency enforces mandatory reporting requirements.

Table 5: Number of CEW Incidents by Agency, 1998–2007

Agency	Number of CEW Incidents	Per centage
Abbotsford	97	6.9
Central Saanich	5	0.4
Delta	45	3.2
GVTAPS	6	0.4
Kitasoo Tribal	1	0.1
Nelson	3	0.2
New Westminster	195	13.9
Oak Bay	7	0.5
Port Moody	8	0.6
Saanich	43	3.1
Vancouver	297	21.2
Victoria	678	48.3
West Vancouver	19	1.4
Total	1404	100.0

With reference to Table 6 below, part of the increase in the number of New Westminster incidents between 2005 and 2006 is accounted for by an increase in reported incidents in which the CEW was displayed only (with no stun or probe deployment). In 2005, none of the 26 incidents were display only while in 2006, 17 of 65 incidents (26%),²⁶⁶ and in 2007, 36 of 80 incidents (45%) were display only. Nevertheless, CEW usage in stun or probe modes increased 69.2 per cent between 2005 and 2007.

The dramatic increase in the number of incidents in Victoria from 2003 and 2004 is not due to an increase in display-only usage of the CEW. In 2003, 16 of 56 incidents (28.6%) were display only²⁶⁷ while in 2004, the proportion was 24.6 per cent (32²⁶⁸ of 130 incidents), and in 2005, the proportion fell to 16.3 per cent (22 of 135 incidents).

²⁶⁶ In an additional two incidents, the subject was warned only and the CEW was not used in any other manner (display, stun, or probe).

²⁶⁷ An additional one incident involved a warning only, with no other CEW usage.

²⁶⁸ An additional two incidents involved warnings only, with no other CEW usage.

Table 6: Number of CEW Incidents by Year in Departments with Most Frequent CEW Usage

Year	Abbotsford	New Westminster	Vancouver	Victoria
1998				1
1999				6
2000	2		18	30
2001	2	3	16	32
2002	5	1	20	51
2003	11	4	21	56
2004	9	16	49	130
2005	17	26	54	135
2006	28	65	66	124
2007	23	80	53	113
Total	97	195	297	678

Note: Initial year of implementation may represent a partial year.

With reference to the number of CEW units in the inventory of Abbotsford, New Westminster, Vancouver, and Victoria, in 2007 the ratio of incidents to CEW units ranged from a low of 0.56:1 in Vancouver, through 0.77:1 in Abbotsford and 3.77:1 in Victoria, to a high of 5.33:1 in Abbotsford.

Table 7 presents the number of CEW incidents per capita (per 100,000 population) for each of the municipal jurisdictions in the census years 2001 and 2006. Every jurisdiction shows an increased per capita rate of CEW use from 2001 to 2006. In 2006, the rate of CEW incidents per capita is notably very high in both Victoria and New Westminster at 130.7 incidents and 111 incidents per 100,000 population, respectively.

Table 7: Per Capita CEW Use by Municipal Jurisdiction 2001, 2006

Agency	2001			2006		
	# of CEW Incidents	Population	# of Incidents per 100,000 Population	# of CEW Incidents	Population	# of Incidents per 100,000 Population
Abbotsford	2	115,494	1.7	28	123,864	22.6
Central Saanich	0	15,348	0	3	15,745	19.1
Delta	0	96,950	0	5	96,723	5.2
Nelson	0	9,318	0	1	9,258	10.8
New Westminster	3	54,656	5.5	65	58,549	111.0
Oak Bay	0	17,798	0	2	17,908	11.2
Port Moody	0	23,816	0	2	27,512	7.3
Saanich	1	103,654	.96	13	108,265	12.0
Vancouver	16	545,671	2.9	66	578,041	11.4
Victoria	32	74,125	43.2	124	94,897	130.7
West Vancouver	0	41,421	0	4	42,131	9.5

Note: Population statistics for 2001 from: Statistics Canada, *2001 Community Profiles*. (2002). Population statistics for 2006 from: Statistics Canada, *2006 Community Profiles*. (2007). In 2003, the Esquimalt Police Department was amalgamated with the Victoria Police Department. The figure given for the 2006 population of Victoria includes 16,840 Esquimalt residents.

Subject Characteristics

The vast majority of subjects involved in incidents in which a CEW was used were male. Of the 1,404 reported incidents, males were the subject of 1,285 (91.5%) incidents and females the subject of 101 (7.2%) incidents. In the remaining 18 incidents it was not possible to determine the gender of the subject from the police report(s) provided. The predominance of male subjects was true for all agencies and also consistent with RCMP use of CEWs in British Columbia (91.2% male and 8.8% female).

The average age of subjects was 32.7 years, with a minimum age of 13²⁶⁹ (Delta, New Westminster, and Victoria) and a maximum age of 84 (Victoria). Within agencies, average age varied from a low of 29 years (Central Saanich and Oak Bay) to a high of 34.7 years (West Vancouver). The average age of subjects of RCMP use of CEWs in BC was nearly identical at 32.9 years.

²⁶⁹ Five subjects were as young as 13; however, in four of these cases the CEW was displayed only. In the fifth case, the 13 year old was exposed to two cycles of probe deployment.

Table 8: Subject Age by Age Group, Independent Municipal Police

Age Group	Frequency	Per centage
10 to 19	96	7.2
20 to 24	245	18.4
25 to 29	247	18.5
30 to 34	212	15.9
35 to 39	198	14.8
40 to 44	155	11.6
45 to 49	94	7.0
50 to 54	41	3.1
55 to 59	21	1.6
60 to 64	13	1.0
65 to 69	6	0.4
70 to 74	2	0.1
75 to 79	2	0.1
80 and over	3	0.2
Total	1335	100.0

Note: Subject age was unknown in 69 cases.

Information about the subject's size was known in 937 cases (66.7%) – either because the report included details about the subject's height and weight or because the subject's size was specifically noted in the synopsis of the incident (usually when the subject was notably large or small). Of these 937 cases, subjects were medium or average size in 709 (75.7%) cases, large in 167 (17.8%) cases, and small in 61 (6.5%) cases.

The race or ethnicity of the subjects involved in CEW incidents was noted in 1,133 cases. With reference to these cases, three-quarters (74.8%) involved Caucasian subjects. The distribution of race or ethnicity varied somewhat across agencies, with Vancouver cases involving a lower per centage of Caucasian subjects and a greater diversity among other racial or ethnic groups. In contrast, Victoria cases involved a higher per centage of Caucasian subjects and less racial or ethnic diversity. A complete list of subject race or ethnicity for all cases and for cases involving the four agencies with the most frequent CEW use is provided in Table 9.

The overall rate of involvement of Aboriginal people in CEW incidents at 12.7 per cent is notably higher than their representation in the population as a whole. According to the 2001 census Aboriginal people represented 4.4 per cent of British Columbia's total population.²⁷⁰ In 2006, Aboriginal people accounted for 4.8 per cent of the total population of the

270 2001 population statistics for British Columbia and for the four jurisdictions from: Statistics Canada, *2001 Census Aboriginal Population Profiles*.

province.²⁷¹ In Abbotsford 8.6 per cent of CEW incidents involved Aboriginal people while their representation in Abbotsford's population was 2.2 per cent in 2001 and 2.9 per cent in 2006. In New Westminster Aboriginal people were involved in 10.6 per cent of CEW incidents while they represented 2.9 per cent (2001) and 3.1 per cent (2006) of New Westminster's population. Aboriginal people made up 1.9 per cent (2001 and 2006) of Vancouver's population while 16.5 per cent of Vancouver's CEW incidents involved Aboriginal people. In Victoria, Aboriginal people accounted for 2.9 per cent and 3.6 per cent of Victoria's population in 2001 and 2006 respectively while 13.2 per cent of CEW incidents in Victoria involved Aboriginal people.

Table 9: Subject Race or Ethnicity

Race or Ethnicity	Total Per cent of Total		Abbotsford		New Westminster		Vancouver		Victoria	
			Total	%	Total	%	Total	%	Total	%
Caucasian	848	74.8	64	79.0	69	66.3	156	61.4	471	80.8
Aboriginal	144	12.7	7	8.6	11	10.6	42	16.5	77	13.2
Asian	35	3.1	0	0	4	3.8	16	6.3	13	2.2
Black	33	2.9	0	0	10	9.6	11	4.3	10	1.7
South Asian	32	2.8	9	11.1	4	3.8	5	2.0	4	0.7
Hispanic	19	1.7	1	1.2	1	1.0	13	5.1	3	0.5
Middle Eastern	13	1.1	0	0.0	0	0.0	9	3.5	3	0.5
Other	9	0.8	0	0	5	4.8	2	0.7	2	0.3
Total	1133	100.0	81	100.0	104	100.0	254	100.0	583	100.0

Note: Subject race or ethnicity was unknown in 271 cases, including 16 Abbotsford cases, 91 New Westminster cases, 43 Vancouver cases, and 95 Victoria cases.

Census figures for visible minority groups for each jurisdiction were not readily available; however, in 2006 Chinese people represented 10 per cent of the province's total population and South Asian people represented 6.4 per cent. In Abbotsford 16.3 per cent of its total population reported belonging to the South Asian visible minority group.²⁷²

In 135 of the 1,404 cases (9.6%) the report(s) provided by the police agencies indicated that the subject of the CEW incident had a history of mental illness known to police prior to the

271 2006 population statistics for British Columbia and for the four jurisdictions from: Statistics Canada, *2006 Census Aboriginal Population Profiles*.

272 All figures in this paragraph from: Statistics Canada, *Canada's Ethnocultural Mosaic, 2006 Census*. (Catalogue no. 97-562).

APPENDIX G

incident. This percentage was more than tripled in Delta (14 of 45 cases, or 31.1%) and nearly doubled in Abbotsford (18 of 97 cases, or 18.6%). The proportion of cases where a subject history of mental illness was known to police prior to the incident was somewhat higher than the overall rate of 9.6% in West Vancouver (three of 19 cases, or 15.8%), Oak Bay (one of seven cases, or 14.3%), Vancouver (40 of 297 cases, or 13.5%), Port Moody (one of eight cases, or 12.5%), and Saanich (five of 43 cases, or 11.6%). However, the rate was somewhat lower in Victoria (48 of 678 cases, 7.1%) and much lower in New Westminster (five of 195 cases, or 2.6%). None of the incidents involving the police agencies of Central Saanich, Nelson, KITASOO TRIBAL, or GVTAPS reportedly concerned subjects with a history of mental illness known to police prior to the incident.

A subject history of violent behaviour known to police prior to the incident was noted in the police report(s) provided for 138 of the 1,404 cases (9.8%).

The presence of a pre-existing medical condition among the subjects of CEW use was very rarely (1.9%) noted in the information provided by the police agencies. The most commonly reported conditions were brain injuries (five cases), diabetes (five cases), hepatitis C (three cases), and seizure disorders (three cases). Two subjects had asthma and two subjects were physically disabled and confined to wheelchairs.

Type of Incident

The type of incident to which police responded is listed in Table 10. It should be noted that the dispatch information does not always represent the actual situation facing the officers dispatched. For example, although 99 calls described a “person with knife,” in 16 of these cases (16.2%) the subject was unarmed when police arrived (78 subjects were armed with an edged weapon and five were otherwise armed). Similarly, on arrival for a “person with gun” call, none of the subjects had a gun in their possession (one was otherwise armed with a “pointed” weapon). At the same time, regardless of the type of call police were dispatched to attend, officers were faced with a subject armed with an edged weapon 187 times and with a firearm five times. Weapons in the possession of subjects when police arrived will be discussed in more detail below.

Table 10: Type of Incident

Type of Incident	Frequency (N=1404)	Per centage
Suicide attempt/threat/self-injurious behaviour	277	19.7
Violence/threat of violence to others (fight)	239	17.0
Disturbance	215	15.3
Drug/alcohol intoxication	173	12.3
Emotionally disturbed person	150	10.7
Domestic disturbance/violence	138	9.8
Patrol observes infraction	107	7.6
Person with knife	99	7.1
Assault	95	6.8
Suspicious person(s)	54	3.8
Break and enter	50	3.6
Serve warrant	50	3.6
Mental health worker assist	46	3.3
Theft	37	2.6
Paramedic assist	33	2.4
Destruction of property	30	2.1
Public assist	29	2.1
Mischief	27	1.9
Robbery	26	1.9
Motor vehicle theft	24	1.7
Police officer assist	22	1.6
Drug offence	21	1.5
Impaired driving	21	1.5
Motor vehicle accident	20	1.4
Unknown	15	1.1
Person with gun	13	0.9
Hit and run (MVA)	7	0.5
Trespassing	6	0.4
Barricade	5	0.4
Possession of stolen property	2	0.1
Child welfare assist (apprehension)	1	0.1
Incomplete 911 call	1	0.1

Note: Up to two incident type descriptions were possible for each case.

APPENDIX G

There was some variation from the pattern shown above in the distribution of incident types within individual departments. Among the four agencies with the most frequent CEW use:

- Abbotsford had much higher proportions of disturbance incidents (23 of 97 cases, or 23.7%) and also of domestic disturbance/violence incidents (24 of 97 cases, or 24.7%) but lower proportions of violence/threatened violence (fight) incidents (10 of 97 cases, or 10.3%), suicide attempt/threat/self-injurious behaviour incidents (15 of 97 cases, or 15.5%), drug/alcohol intoxication incidents (eight of 97 cases, or 8.2%), and emotionally disturbed person incidents (eight of 97 cases, or 8.2%).
- New Westminster had much higher proportions of emotionally disturbed person incidents (29 of 195 cases, or 14.9%) and also of assault incidents (21 of 195 cases, or 10.8%) but lower rates of violence/threatened violence (fight) incidents (21 of 195 cases, or 10.8%), suicide attempt/threat/self-injurious behaviour incidents (10 of 195 cases, or 5.1%), drug/alcohol intoxication incidents (17 of 195 cases, or 8.7%), and disturbance incidents (11 of 195 cases, or 5.6%).
- Vancouver had much higher rates of emotionally disturbed person incidents (47 of 297 cases, or 15.8%) and also of person with knife incidents (36 of 297 cases, or 12.1%) but lower proportions of incidents involving suicide attempt/threat/self-injurious behaviour (41 of 297 cases, or 13.8%) and drug/alcohol intoxication (28 of 297 cases, or 9.4%).
- Victoria had higher rates of disturbance incidents (128 of 678 cases, or 18.9%) and also of incidents observed by officers on patrol (74 of 678 cases, or 10.9%) but lower rates of incidents involving suicide attempt/threat/self-injurious behaviour (49 of 678 cases, or 7.2%) and emotionally disturbed persons (48 of 678 cases, or 7.1%).

The distribution of incident types for RCMP CEW usage in BC is similar to the overall distribution of incident types among independent police agencies in BC with the following exceptions:

- The RCMP rate of mental health calls at 14.7% was higher than for the independent police agencies (10.7%).
- The RCMP rate of cause disturbance calls at 18.4% was somewhat higher than for the independent police agencies (15.3%).
- The RCMP rate of suicidal person calls at 4.9% was much lower than for the independent police agencies (19.7%).
- The RCMP rate of non-firearm weapons calls at 5.3% was somewhat lower than for the independent police agencies person with knife calls (7.1%).

The time of day of the CEW incident was known in 1,291 or 92 per cent of cases. Of these cases, two-thirds (67.5%) occurred during evening or nighttime hours (6 p.m. and 6 a.m.). The prevalence of CEW use during nighttime hours is consistent with RCMP CEW use figures.

Location of Incident

Incidents in which the CEW was used most frequently occurred on the street (527 incidents or 37.5%) followed by a residence (476 incidents or 33.9%).²⁷³ The third most frequent location

273 This figure includes 54 incidents that occurred in residential hotels or “single room occupancy” residences.

of CEW incidents was police cells (105 cases, or 7.8%), followed by businesses other than bars and night clubs (65 cases, or 4.6%) and outside of bars and nightclubs (65 cases, or 4.6%). Thirty-seven incidents (or 2.6%) occurred in hospitals.

Some variation from this overall pattern of location of CEW use exists within the four departments with the most frequent use of the CEW:

- Abbotsford recorded a much higher rate of incidents in hospitals (seven cases, or 7.2%) and in businesses other than bars or night clubs (nine cases, or 9.3%) and a somewhat higher rate of incidents occurring on the street (39 cases, or 40.2%) or in residences (37 cases, or 38.1%). Abbotsford recorded a much smaller proportion than the overall rate of incidents occurring in police cells (two cases, or 2.1%).
- CEW incidents in New Westminster were much less likely to occur in a residence (41 cases, or 21%) but more likely to occur on the street (90 cases, or 46.2%).
- In Vancouver, nearly one-half of CEW incidents occurred in residences (141 cases, or 47.5%) and were also more likely to occur outside bars or night clubs (21 cases, or 7.1%). Somewhat fewer incidents occurred elsewhere on the street (97 cases, or 32.7%) or in hospitals (one case, or 0.3%) and none reportedly occurred in police cells.
- In Victoria, CEW incidents were much less likely to occur in residences (185 cases, or 27.3%) and more likely to occur in police cells (84 cases, or 12.4%). An additional 14 cases (2.1%) occurred elsewhere in the police station.

The location of the incident was not available with respect to RCMP CEW use.

Subject Behaviours/Actions

Incident descriptions, narratives and synopses of events recorded in the report(s) provided by the police agencies were used to extract the characteristics of subject behaviours or actions as observed by police members on the scene of the CEW use incident. Levels of resistance as outlined in the National Use of Force Framework were supplemented with other descriptors of subject behaviour as noted in the police report(s). Table 11 lists the frequency that these behaviours or actions were observed and noted by police members. Behaviour categories, including levels of resistance, are not mutually exclusive. This means, for example, that in an incident in which the subject's behaviour is initially passively resistant to police direction but escalates to active resistance, both passive resistance and active resistance is recorded. Analysis of method of CEW use in the context of the highest level of resistance displayed by the subject is presented in a later section of this report.

Table 11: Subject Behaviours/Actions

Subject Behaviours/Actions	Frequency (N=1404)	Per centage
Cooperative/compliant to directions	100	7.1
Passive resistance ²⁷⁴	108	7.7
Agitated	210	15.0
Pacing	19	1.4
Yelling	340	24.2
Smashing property	60	4.3
Verbally abusive/verbal threats/verbal aggression	322	22.9
Alcohol/drug intoxication	867	61.8
Symptoms of “excited delirium”	14	1.0
Symptoms of drug overdose	1	0.1
Symptoms of drug induced psychosis	49	3.5
Active resistance ²⁷⁵	1020	72.6
Assaultive ²⁷⁶	691	49.2
Violence/threatened violence to police	160	11.4
Violence/threatened violence to self	132	9.4
Violence/threatened violence to others	111	7.9
Threatened suicide by cop scenario	51	3.6
Grievous bodily harm or death ²⁷⁷	19	1.4
Officer assaulted	66	4.7

Note: Each incident may contain multiple (not mutually exclusive) descriptors of subject behaviour/actions (including levels of resistance).

Subject behaviour characteristics differed somewhat from the overall pattern for the four agencies with the most numerous CEW incidents. Among these agencies notable differences included:

274 Passive resistance is defined as refusal, with little or no physical action, to cooperate; refusal to show hands.

275 Active resistance is defined as non-assaultive physical action to resist; e.g., pulling away.

276 Assaultive is defined as attempts to apply or application of force to any person; kicking, punching, threatening acts or gestures, aggressive body language, “pre-assault cues.”

277 Grievous bodily harm or death is defined as actions intended to or likely to cause grievous bodily harm or death; assault with weapon; actions that would result in serious injury to any person; actions that warrant use of deadly force.

- In Abbotsford subject behaviours were characterized by much higher rates of agitated behaviour (22.7%), verbal abuse/threats/aggression (37.1%), active resistance (81.4%), violence or threatened violence to police (34%), grievous bodily harm or death (7.2%), and officer assaulted (9.3%). Far fewer Abbotsford cases were characterized by cooperative or compliant behaviour (1%) and alcohol and/or drug intoxication (44.3%).
- In New Westminster, passive resistance by the subject was much more common (27.2%) than in the overall figures. Agitated behaviour (7.7%), yelling (9.2%), active resistance (54.4%), assaultive behaviour (41%), and violence or threatened violence to police was much less common than in the overall figures.
- In relation to Vancouver cases, subjects were much more likely to be described as yelling (33.7%), and somewhat more likely to be described as cooperative (11.4%), smashing property (7.4%), displaying symptoms of drug induced psychosis (7.1%), and threatening a suicide by cop scenario (5.7%). The Vancouver cases were somewhat less likely to involve passive resistance (4%) and assaultive behaviour (44.1%).
- A far smaller proportion of subjects in the Victoria cases displayed passive resistance to police direction (1.3%) and a somewhat smaller proportion of subjects were violent or threatened violence toward police. In a much higher proportion of the Victoria cases, subject behaviour was described as actively resistant (80.4%).

For the most part, information about subject behaviour was not available with respect to RCMP CEW incidents. The single exception concerned the involvement of substance use, in relation to which the RCMP CEW incidents involved a much higher rate than was evidenced in the independent police agency data. Of the 1,466 RCMP CEW incidents in BC, 1,202 (82%) reportedly involved the use of substances (including alcohol and drugs) while alcohol and/or drug intoxication was noted in 61.8 per cent of independent police agency incidents.

Weapons

Approximately one in five CEW incidents (275 of 1,404 cases, or 19.6%) involved a subject armed with some type of weapon. The rate of weapons involvement was considerably higher for the RCMP CEW use incidents at 34.7 per cent.

In comparison to the overall pattern there was notable variation in the proportion of CEW incidents involving armed subjects within the various independent police agencies. Armed subjects were involved in:

- over one-quarter (26 of 97 cases, or 26.8%) of Abbotsford incidents
- one of the five (20%) Central Saanich cases
- over one-quarter (13 of 45 cases, or 28.9%) of Delta incidents
- one of the three (33.3%) Nelson cases
- one in 10 (19 of 195 cases, or 9.7%) New Westminster incidents
- three of the seven (42.9%) Oak Bay cases
- two of the eight (25%) Port Moody cases
- five of the 43 (11.6%) Saanich incidents
- nearly one-third (91 of 297 cases, or 30.6%) of Vancouver incidents
- one in six (109 of 678 cases, or 16.1%) Victoria cases
- five of the 19 (26.3%) West Vancouver cases

APPENDIX G

None of the six Transit Authority Police Service cases involved an armed subject. The single KITASOO CEW incident also did not involve an armed subject.

The majority (68%) of the 275 subjects who were armed with some type of weapon were in possession of an edged weapon (such as a knife, glass, scissors, or hatchet) when police arrived on the scene. A blunt weapon (or something that was used as a blunt weapon), such as a bat, hockey stick, pipe, hammer, was in the possession of 52 (18.9%) armed subjects. Thirty-three armed subjects (12%) were in possession of a pointed weapon, such as a needle, fork, or pickaxe. Five subjects (1.8%) were armed with a firearm. Four (1.5%) subjects were armed with other types of weapons (such as pepper spray), and in two cases (0.7%) subjects used a dog as a weapon against police.

Included in the totals given above, a handful of subjects were in possession of more than one type of weapon when police arrived:

- Five were armed with both an edged weapon and a blunt weapon.
- Two were armed with both an edged weapon and a pointed weapon.
- One was armed with both a firearm and an edged weapon.

Nature of CEW Deployment

In 297 (21.2%) of the 1,404 CEW incidents the subject was warned that a CEW might be used if he or she failed to comply with police direction. In 12 of these cases (4%), the warning was sufficient to gain compliance and no further use of the CEW was needed. In 84 cases (28.3%) the warning was followed with a display of the CEW in an attempt to gain compliance with no further use of the CEW. In 73 cases (24.6%) the warning was followed by the application of the CEW in stun mode (also known as drive-stun mode) with or without an attempt to gain compliance through display of the weapon and no further use of the CEW was needed. In 104 cases (35%) the warning was followed by the deployment of the CEW in probe mode only (with or without display of the weapon). In 23 cases (7.7%) the warning was followed by the application of the weapon in both stun and probe modes (with or without display of the weapon).

Table 12 below gives the frequencies with which the CEW was used in the various modes of display, stun, and probe for each agency.

Table 12: Nature of CEW Use by Agency

Agency	Number of CEW Use Incidents	Display		Stun		Probe	
		Total	%	Total	%	Total	%
Abbotsford	97	34	35.1	44	45.4	54	55.7
Central Saanich	5	5	100.0	1	20.0	3	60.0
Delta	45	32	71.1	11	24.4	19	42.2
GVTAPS	6	4	66.7	2	33.3	4	66.7
Kitasoo Tribal	1	0	0.0	0	0.0	1	100.0
Nelson	3	0	0.0	0	0.0	3	100.0
New Westminster	195	96	49.6	75	38.5	85	43.6
Oak Bay	7	6	85.7	0	0.0	2	28.6
Port Moody	8	2	25.0	1	12.5	7	87.5
Saanich	43	20	46.5	29	67.4	15	34.9
Vancouver	297	151	50.8	107	36.0	144	48.5
Victoria	678	238	35.1	301	44.4	239	35.3
West Vancouver	19	11	57.9	7	36.8	11	57.9
Total	1404	599	42.7	578	41.2	587	41.8

Note: The CEW may be used in more than one mode in any one incident. Use of the CEW in display mode was unknown in four cases. Whether or not it was used in stun mode or probe mode was unknown in 10 cases.

In comparison to CEW usage by the RCMP, the overall rate of stun mode use by the independent municipal agencies is slightly lower at 41.2 per cent than that reported for the RCMP (44.7%). Probe mode use is slightly higher among the independent municipal agencies at 41.8 per cent than that reported for the RCMP (39.2%).

The CEW was used in display mode only (with no stun or probe mode usage) in approximately one in five of the 1,404 cases (308 cases, or 21.9%). Such use was rare in Saanich (one of 43 cases, or 2.3%) and Abbotsford (eight of 97 cases, or 8.2%), in the 20 to 30 percent range in Central Saanich (one of five cases, or 20%), Vancouver (61 of 297 cases, 20.5%), West Vancouver (four of 19 cases, or 21.1%), Victoria (155 of 678 cases, or 22.9%), and New Westminster (55 of 195 cases, or 28.2%), and more frequent in Delta (19 of 45 cases, or 42.2%) and Oak Bay (four of seven cases, or 57.1%).²⁷⁸

The overall rate of display-only usage among the independent police agencies is slightly lower than that reported for the RCMP (24.6%).

²⁷⁸ Nelson, Port Moody, the Transit Authority, and the Kitasoo Tribal Police reported no such use of the CEW.

APPENDIX G

In just over one-quarter of incidents (400 cases, or 28.5%) the CEW was used in stun mode only (with no display or probe usage). The rate of such usage by each agency is listed in Table 13 below.

Table 13: Stun Mode Only CEW Use by Agency

Agency	Number of CEW Use Incidents	Stun Mode Only	
		Total	%
Abbotsford	97	28	28.9
Central Saanich	5	0	0.0
Delta	45	4	8.9
GVTAPS	6	1	16.7
Kitasoo Tribal	1	0	0.0
Nelson	3	0	0.0
New Westminster	195	42	21.5
Oak Bay	7	0	0.0
Port Moody	8	1	12.5
Saanich	43	18	41.9
Vancouver	297	62	20.9
Victoria	678	240	35.4
West Vancouver	19	4	21.1
Total	1404	400	28.5

A greater proportion of the RCMP CEW incidents involved the use of the CEW in stun mode only at 36.2 per cent compared to the overall rate among the independent municipal police agencies of 28.5 per cent.

In just under one-quarter of CEW incidents (323 cases, or 23%) the CEW was used in probe mode only (with no display or stun mode usage). The rate of such usage by each agency is depicted in Table 14 below.

Table 14: Probe Mode Only CEW Use by Agency

Agency	Number of CEW Use Incidents	Probe Mode Only	
		Total	%
Abbotsford	97	30	30.9
Central Saanich	5	0	0.0
Delta	45	5	11.1
GVTAPS	6	1	16.7
Kitasoo Tribal	1	1	100.0
Nelson	3	3	100.0
New Westminster	195	41	21.0
Oak Bay	7	0	0.0
Port Moody	8	5	62.5
Saanich	43	5	11.6
Vancouver	297	73	24.6
Victoria	678	155	22.9
West Vancouver	19	4	21.1
Total	1404	323	23.0

In comparison with the RCMP CEW use figures, the rate of probe-mode-only usage among the independent police agencies is somewhat lower at 23 per cent than the RCMP usage rate of 30.7 per cent.

The deployment of the CEW in both stun and probe mode (without display usage) occurred in less than one in 20 incidents (59 of 1,404 cases, or 4.2%). This is lower than the comparable rate of RCMP usage of both stun and probe mode of 8.5 per cent. Among the independent municipal agencies the rate of use of the CEW in both stun and probe mode (without display usage) ranged from lows of 3.4 per cent (10 of 297 cases) in Vancouver and 4 per cent (27 of 678 cases) in Victoria to highs of 5.2 per cent (five of 97 cases) in Abbotsford, 6.7 per cent (three of 45 cases) in Delta, and 7.2 per cent (14 of 195 cases) in New Westminster. The remaining independent agencies reported no such usage of the CEW in both stun and probe modes.

In more than half of the 1,404 incidents (764 cases, or 54.4%) it was not possible to determine from the police report(s) the model of CEW used. In relation to the remaining 640 cases, the TASER M26 was used in one-third (33.4%) and the TASER X26 was used in two-thirds (66.6%). This pattern was reversed in relation to the RCMP CEW incidents with 73.9 per cent involving the TASER M26 and 26.1 per cent involving the TASER X26.

APPENDIX G

The following four sections will review the more detailed results relating to display mode, stun mode, probe mode, and combined stun and probe mode usage.

Use of the CEW in Display Mode

As previously reported, display of the CEW in the attempt to gain subject compliance was present in 599, or 42.7 per cent, of the 1,404 CEW incidents. This type of use of the CEW includes simple display of the weapon, “sparking” of the weapon, and targeting of the laser sight on the subject.

In almost all instances (595 cases, or 99.3%) where the CEW was used in display mode, display of the CEW was the first CEW method used to gain the subject’s compliance. In four cases the CEW was used in this way after it had been used in probe mode. In one of these four cases the CEW was used first in probe mode, was then displayed in an attempt to gain compliance, and the subject was then exposed to the CEW in stun mode.

In most cases (578 cases, or 96.5%) one attempt to gain the subject’s compliance through the display of the CEW occurred. In 18 cases (3%) two attempts were made to gain subject compliance through this method and in a single case (0.2%) three attempts were made. In two cases (0.3%) it was not known how many times the CEW was used in this mode.

In nearly half of incidents (284 of 599, or 47.4%) in which display compliance was attempted the method was effective or ultimately effective (in the case of multiple attempts) in gaining the subject’s compliance to police direction. This method was ineffective in 286 (47.7%) cases and only temporarily effective in 28 (4.7%) cases.

Use of the CEW in Stun Mode

As previously reported, use of the CEW in stun mode occurred in 578 (41.2%) of the 1,404 CEW incidents.²⁷⁹ In nearly three-quarters of these cases (413, or 71.5%) use of CEW in stun mode was the first method of CEW use. In nearly one-quarter of cases (137, or 23.7%) use of the CEW in stun mode was the second method of CEW use (following 88 instances of display and 49 instances of use of the CEW in probe mode). In 28 cases (4.8%) use of the CEW in stun mode was the third option used, following use in both display and probe modes.²⁸⁰

In over one-half of the 578 incidents (319 cases, or 55.2%) in which the CEW was used in stun mode the subject was exposed to one stun deployment. In just over one-quarter of incidents (151 cases, or 26.1%) the subject was exposed to two stun deployments. Three stun deployments were used in 55 incidents (9.5%) and four deployments were used in 23 cases (4%). Stun mode was used five times against five subjects (0.9%) and six times against five subjects (0.9%). Four subjects (0.7%) were stunned eight times, and one subject (0.2%) was stunned a total of 14 times. The number of stun deployments (but at least one) was unclear in 15 incidents (2.6%).

Table 15 below presents the number of times stun mode was used by the independent municipal police agencies with comparable RCMP figures.

279 This rate has remained relatively stable over time, apart from 2000 when the rate was 12 per cent and 2001 when the rate was 27.8 per cent. The rate jumped to 41.6 per cent in 2002, fell to 37.3 per cent in 2003, was 41.7 per cent in 2004, rose to 49.8 per cent in 2005, fell to 42.7 per cent in 2006, and dropped slightly to 40.9 per cent in 2007.

280 Order of use was display, probe, stun in 27 cases, and probe, display, stun in one case.

Table 15: Number of Times Stun Mode Used by Independent Police Agencies vs. RCMP

Number of Times Stun Mode Used	Independent Agencies (N=578)		RCMP (N=655)	
	Total	%	Total	%
1	319	55.2	402	61.4
2	151	26.1	161	24.6
3	55	9.5	60	9.2
4	23	4.0	13	0.6
5+	15	2.6	19	2.9
Unknown	15	2.6	0	0.0

With respect to incidents involving the use of the CEW in stun mode, the overall average number of stun deployments for the municipal departments was 1.7 times per incident with a minimum of one and a maximum of 14. Table 16 below lists the averages, minimums, and maximums for each of the municipal agencies that had incidents in which stun mode was used.

Table 16: Average, Minimum, and Maximum Stun Deployments by Agency

Agency	Average Number of Stun Deployments	Minimum Number of Stun Deployments	Maximum Number of Stun Deployments
Abbotsford	1.6	1	6
Central Saanich	2	2	2
Delta	2.5	1	8
GVTAPS	1	1	1
New Westminster	1.8	1	6
Port Moody	2	2	2
Saanich	2	1	14
Vancouver	1.8	1	6
Victoria	1.7	1	8
West Vancouver	2.4	1	3

In relation to the 578 incidents in which stun mode was used, subjects were stunned more than once in nearly half of all incidents (259 cases, or 44.8%). The proportion of incidents in which stun mode was deployed multiple times varied from a low of 37.9 per cent (11 of 29 cases) in Saanich to highs of 85.7 per cent (six of seven cases) in West Vancouver and 100 per cent in Central Saanich and Port Moody, where the single cases where stun mode was used involved multiple stun deployments.

APPENDIX G

As a proportion of total incidents for the year, multiple stun deployments (that is, more than one deployment against a subject during an incident) has remained relatively stable over time. There were no incidents of multiple stun deployments in 1998 or 1999, two incidents (4%) in 2000, 10 incidents (18.5%) in 2001, 22 incidents (28.6%) in 2002, 16 incidents (15.7%) in 2003, 48 incidents (21.5%) in 2004, 50 incidents (18.6%) in 2005, 58 incidents (18.5%) in 2006, and 53 incidents (17.2%) in 2007.

In one-third of stun use incidents (195 cases, or 33.7%) the location on the subject's body targeted by the stun deployment was not recorded in the police report(s). The most common location for stun deployment was the subject's back (28.9%), followed by the legs (9.7%), shoulders (6.1%), side or ribs (5%), chest (4.3%), abdomen (3.5%), buttocks (2.8%), neck (2.2%), arms (2.1%), and torso (1.6%). In one case the CEW was triggered against a metal vent that the subject was touching, resulting in a shock to the subject.

In 24 cases (4.2%) the stun deployment was applied to the subject's bare skin.

Use of the CEW in stun mode was effective (or ultimately effective in the case of multiple stuns) in controlling the subject in 458 incidents (79.2%). The method was ineffective in 83 incidents (14.4%) and only temporarily effective in 24 incidents (4.2%). It was not possible to determine the effectiveness of the stun deployment from the police report(s) in 13 cases (2.2%).

Use of the CEW in Probe Mode

As previously reported, use of the CEW in probe mode occurred in 587 (41.8%) of the 1,404 CEW incidents.²⁸¹ In two-thirds of these cases (390, or 66.4%) use of CEW in probe mode was the first method of CEW use. In nearly one-third of cases (193, or 32.9%) use of the CEW in probe mode was the second method of CEW use (following 182 instances of display and 11 instances of use of the CEW in stun mode). In four cases (0.7%) use of the CEW in probe mode was the third option used, following use in display and then stun modes.

In nearly two-thirds of the 587 incidents (378 cases, or 64.4%) in which the CEW was used in probe mode the subject was exposed to one probe deployment. In almost one-quarter of incidents (131 cases, or 22.3%) the subject was exposed to two probe cycles. Three probe cycles were used in 40 incidents (6.8%) and four cycles were used in 14 cases (2.4%). Probe mode was used five times against six subjects (1%) and six times against two subjects (0.3%). The CEW in probe mode was cycled seven, eight, nine, and 10 times against one subject each (0.2%). The number of probe cycles (but at least one) was unclear in 12 incidents (2%).

The rates of single and multiple cycles of probe engagement for the RCMP is similar to that found for the independent municipal police agencies.

With respect to incidents involving the use of the CEW in probe mode, the overall average number of probe cycles for the municipal departments was 1.6 times per incident with a minimum of one and a maximum of 10. Table 17 below lists the averages, minimums, and maximums for each of the municipal agencies that had incidents in which probe mode was used.

281 As a proportion of incidents per year the rate of CEW use in probe mode has fallen gradually over time. In 1998 the single case involved the use of the CEW in probe mode (100%). The rate was 66.7 per cent in 1999, 56 per cent in 2000, 55.6 per cent in 2001, 46.8 per cent in 2002, 46.1 per cent in 2003, 40.8 per cent in 2004, 39.4 per cent in 2005, 40.8 per cent in 2006, and 37.7 per cent in 2007.

Table 17: Average, Minimum, and Maximum Probe Cycles by Agency

Agency	Average Number of Probe Cycles	Minimum Number of Probe Cycles	Maximum Number of Probe Cycles
Abbotsford	1.5	1	5
Central Saanich	1.3	1	2
Delta	1.5	1	3
GVTAPS	1	1	1
Kitasoo Tribal	1	1	1
Nelson	1.3	1	2
New Westminster	1.8	1	10
Port Moody	1.7	1	2
Saanich	1.4	1	3
Vancouver	1.5	1	6
Victoria	1.5	1	8
West Vancouver	2	1	5

In relation to the 587 incidents in which probe mode was used, subjects were exposed to more than one probe cycle in over one-third of all incidents (209 cases, or 35.6%). The proportion of incidents in which the subject was exposed to multiple probe cycles varied from lows of 33.3% in Abbotsford (18 of 54 cases), Central Saanich (one of three cases), Nelson (one of three cases), and Saanich (five of 15 cases) to highs of 50 per cent (one of two cases) in Oak Bay, 54.5 per cent (six of 11 cases) in West Vancouver, and 71.4 per cent (five of seven cases) in Port Moody.

As a proportion of incidents by year, multiple probe cycles (that is, use of more than one cycle against a subject during an incident in which probe mode was used) has fallen slightly over time. There were two incidents (33.3%) in 1999, 12 incidents (24%) in 2000, nine incidents (16.7%) in 2001, 14 incidents (18.2%) in 2002, 12 incidents (11.8%) in 2003, 36 incidents (16.1%) in 2004, 39 incidents (14.5%) in 2005, 46 incidents (14.6%) in 2006, and 39 incidents (12.7%) in 2007.

Information about the distance the police officer was from the subject when the CEW probes were fired was often (273 cases, or 46.5%) missing from the police report(s). In 80 per cent of the remaining cases the CEW was deployed from a distance of between five and 15 feet. The average deployment distance was 8.7 feet with a minimum distance of one foot and a maximum distance of 22 feet.

The duration of the probe cycles was also often (50%) unknown from the information provided in the police report(s). The most commonly (84.7% of the 294 known cases) noted duration was five seconds (the default duration of a probe cycle). The minimum duration noted was one second and the maximum was 40 seconds (eight continuous cycles).

APPENDIX G

In one-fifth of probe use incidents (127 cases, or 21.6%) the location on the subject's body hit by the probe darts was not recorded in the police report(s). Among cases where the body location was known, the most common location was the subject's back (24.8%), followed by the chest (21.7%), torso or "centre mass" (8.7%), chest and abdomen (8.3%), and abdomen (5%). In six cases, one or more of the probe darts hit the subject in the neck or face.

In 18 cases (3.1%) the CEW was deployed in probe mode while the subject was in a vulnerable position, such as on a rooftop or climbing a fence, and liable to fall when incapacitated by the electrical shock.

In 44 cases (7.5%) the probe darts hit the subject's bare skin.

Use of the CEW in probe mode was effective (or ultimately effective in the case of multiple probe cycles) in controlling the subject in 393 incidents (67%). The method was ineffective in 135 incidents (23%) and only temporarily effective in 59 incidents (10.1%). In relation to the 194 cases where the probe deployment was ineffective or only temporarily effective, the reason for the failure to control the subject was unknown in 71 cases (36.6%). The method failed due to poor electrical conduction (usually due to thick clothing) in 69 cases (35.6%), one or both of the probe darts missing or becoming dislodged in 47 cases (24.2%), and a technical problem (such as the malfunction of the CEW or low battery power) occurring in seven cases (3.6%).

One or both probe darts were embedded in the subject's skin in 386 cases. In these cases the dart(s) was/were removed by a hospital physician in 153 cases (39.6%), paramedics in 34 cases (8.8%), the subject in 32 cases (8.3%), and police in 10 cases (2.6%). Information about dart removal was missing in 157 cases (40.7%).

Use of the CEW in Stun and Probe Modes

In 92 of the 1,404 (6.6%) CEW use incidents the CEW was deployed in both stun and probe modes (with or without an attempt to gain compliance through display of the CEW). The frequency of such usage for the police agencies that had used the CEW in this manner is listed in Table 18 below.

Table 18: Frequency of Stun and Probe Mode Deployments by Agency

Agency	Number of CEW Use Incidents	Stun and Probe Mode	
		Total	%
Abbotsford	97	9	9.3
Delta	45	5	11.1
New Westminster	195	22	11.3
Saanich	43	2	4.7
Vancouver	297	16	5.4
Victoria	678	35	5.2
West Vancouver	19	3	15.8

As a proportion of CEW incidents each year, use of the CEW in both stun and probe modes during a single incident has gradually increased somewhat. There were two (4%) such incidents in 2000, two (3.7%) in 2001, four (5.2%) in 2002, seven (6.9%) in 2003, 11 (4.9%) in 2004, 18 (6.7%) in 2005, 22 (7%) in 2006, and 26 (8.4%) in 2007.

In 19 of the 1,404 CEW incidents (1.4%) both stun and probe modes were used multiple times (that is, more than once each in a single incident). The rate of such usage was highest in West Vancouver where two of 19 (10.5%) incidents involved both multiple stun deployment and multiple probe cycles. In Delta the rate was 4.4 per cent (two of 45 incidents), and in New Westminster the rate was 3.1 per cent (six of 195 incidents).

In 11 of the 19 incidents (57.9%) two probe cycles were combined with two (eight cases), three (one case), and four (two cases) stun deployments. In four of the 19 cases (21.1%) three probe cycles were combined with two (two cases), four (one case), and eight (one case) stun deployments. In three of the 19 cases (15.8%) five probe cycles were combined with two, four, and five stun deployments (one cases each). In one case (5.3%) seven probe cycles were combined with three stun deployments.

In an additional 20 of the 1,404 CEW incidents (1.4%) two or more stun deployments were combined with one probe deployment. In these cases the number of stun deployments ranged from two (14 cases) to six (one case).

In an additional 15 of the 1,404 CEW incidents (1.1%) two or more probe cycles were combined with one stun deployment. In these cases the number of probe cycles ranged from two (13 cases), to four (one case).

Subject Behaviour and the Use of Conducted Energy Weapons

Thus far, the review of CEW use by municipal police agencies in BC has presented the characteristics of subject behaviour and the nature of CEW use in isolation from each other. However, the justification for the use and method of use of the CEW is dependent upon the behaviour of the subject when confronted by police. This section will summarize how the CEW has been used by police when dealing with subjects who displayed various levels of resistance to police efforts to control them.

Table 19 presents the methods of CEW use in the context of the highest level of subject resistance faced by police. Subject resistance is categorized according to the National Use of Force Framework which describes subject behaviour as cooperative, passive resistance, active resistance (including fleeing from police), assaultive, and posing a threat of grievous bodily harm or death to anyone. As can be seen from this analysis of the data, police have used the CEW in situations that fall short of posing an immediate threat of harm.

Table 19: Method of CEW Use by Highest Level of Subject Resistance

Highest Level of Resistance	Cooperative	Passive	Active	Assaultive	GBH/Death	Other	Total
CEW Use							
Warning Only	0	3	3	5	0	1	12
Display Only Deployment	92	32	89	75	0	20	308
Display & Stun	0	0	34	50	1	1	86
Display & Probe	0	16	57	89	7	3	172
Stun Only	0	2	145	245	2	6	400
Probe Only	0	18	130	147	9	19	323
Stun & Probe	0	0	22	37	0	0	59
Display & Stun & Probe	0	1	8	24	0	0	33
Total	92	72	488	672	19	50	1393*

Note: The “other” category includes all cases where the subject’s behaviour did not involve any of the National Use of Force Framework resistance categories but may involve alcohol or drug intoxication; possession of a weapon; or verbal threats of violence to police, self, or others.

*The specific method of CEW use was unknown in seven cases involving active resistance and four cases involving assaultive resistance.

With respect to the results presented in Table 19, it should be noted that a number of subjects who displayed only passive resistance to police direction were in possession of a weapon. In seven of the 16 cases in which the CEW was used in both display and probe mode, the subject was armed while offering passive resistance. In six of the 18 cases in which the CEW was used in probe mode, only the subject was armed while offering passive resistance to police direction. Of course, the converse is also notable. Thirty-seven unarmed subjects displaying only passive resistance were exposed to the CEW in stun mode, probe mode, or both.

It is also noteworthy that only 19 incidents (1.4% of the 1,404 incidents) involved subject behaviour considered to be actions intended to or likely to cause grievous bodily harm or death to anyone – that is, actions that would legally justify the use of deadly force.

Alcohol or drug intoxication is also a significant feature in CEW incidents. As previously reported, 61.8 per cent of all CEW incidents involved a subject who was under the influence of alcohol or drugs. Table 20 presents the frequency with which the CEW was used in various modes against an intoxicated subject.

Table 20: Method of CEW Use Against Alcohol or Drug Intoxicated Subjects

CEW Use	Intoxicated Subject	
	Total (N=863)*	%
Warning Only	4	0.5
Display Only Deployment	135	15.6
Display & Stun	68	7.9
Display & Probe	101	11.7
Stun Only	307	35.6
Probe Only	191	22.1
Stun & Probe	35	4.1
Display & Stun & Probe	22	2.5

* In four cases the method of CEW use was unknown.

In relation to the 863 cases listed in Table 20 above, the subject displayed no active resistance, assaultive behaviour, or threat of grievous bodily harm or death in 97 cases (11.2%). In most (57.7%) of these 97 incidents the CEW was used in display mode only. However, in nine cases (9.3%) the subject was exposed to the CEW in stun mode; in 31 cases (32%) the subject was exposed to the CEW in probe mode; and in one case (1%) the subject was exposed to the CEW in both stun and probe modes. In 10 of these 41 cases (24.4%) where the CEW was used in stun mode, probe mode, or both, the subject was not subsequently arrested for a *Criminal Code* offence or under the authority of the *Mental Health Act*.

Use of Other Force Options

Police report(s) also documented use of other intervention methods or force options to control subjects. Table 21 below lists the frequency with which these methods were used before, during, or after use of the CEW.²⁸²

²⁸² In the absence of an adequate synopsis or narrative of events, it was difficult or impossible to determine the order with which these other options were used. This was particularly the case with the subject behaviour report/officer response report.

Table 21: Use of Other Intervention Methods or Use-of-Force Options in Conjunction with CEW Use

Intervention Method	Before CEW Use		During CEW Use		After CEW Use	
	Total (N=1404)	%	Total (N=1404)	%	Total (N=1404)	%
Verbal Intervention	1320	94.0	86	6.1	35	2.5
“Soft” Physical Control	474	33.8	31	2.2	114	8.1
“Hard” Physical Control	246	17.5	37	2.6	134	9.5
OC/Pepper Spray Warning	6	0.4	1	0.1	3	0.2
OC/Pepper Spray Use	100	7.1	2	0.1	34	2.4
Baton Use	19	1.4	2	0.1	17	1.2
Bean Bag Shotgun Use	10	0.7	4	0.3	11	0.8
Arwen Gun Use	8	0.6	2	0.1	3	0.2
Dog Warning	6	0.4	5	0.4	4	0.3
Dog Use	9	0.6	0	0.0	9	0.6
Firearm Warning	71	5.1	62	4.4	13	0.9
Firearm Use	0	0.0	0	0.0	0	0.0
Restraints	14	1.0	14	1.0	1333	95.0

Note: “Soft” physical control includes arm and wrist locks, hands-on force to pressure points, and taking the subject to the ground. “Hard” physical control includes open and empty hand strikes, punches, and kicks to target areas. OC/Pepper spray warning includes presence or display of oleoresin capicum spray. Dog warning includes the presence of a police dog during the incident. Firearm warning includes display of a firearm and “lethal overwatch.”

In relation to use of other force options, it is notable that 77 of the 100 cases where OC/pepper spray was used before use of the CEW occurred in Victoria (77 of 678 Victoria CEW incidents, or 11.4%). Victoria incidents also made up the majority of cases where OC/pepper spray was used after use of the CEW (24 of the 34 cases, or 3.5% of the 678 Victoria incidents).

The presence of drawn firearms or “lethal overwatch” was notably more common among the CEW incidents in Port Moody and Delta. In Port Moody two of the eight CEW incidents (25%) involved a firearm warning prior to the use of the CEW. In Delta eight of the 45 CEW incidents (17.8%) included “lethal overwatch” prior to the use of the CEW.

Use of the CEW against a handcuffed subject was very rare; however, 12 of the 14 cases where the subject was handcuffed prior to the use of the CEW occurred in New Westminster (12 of 195 cases, or 6.2% of New Westminster CEW incidents). In relation to the 14 restrained subjects, all displayed active or assaultive resistance. In two cases the CEW was used in display mode only and in 12 cases the CEW was used in stun mode (in one of these cases, the CEW was also deployed in probe mode).

In nearly all CEW incidents (95%) the subject was restrained following the use of the CEW.²⁸³ Most commonly (1,060 cases, or 79.5%) the subject was handcuffed. In one in 10 cases (10.7%) the subject was taken into custody but the type of restraint employed was not specifically noted in the police report(s). Handcuffs combined with another form of restraint (such as ankle restraints) were used in 52 incidents (3.9%). Subjects were restrained on a Provincial Ambulance Service stretcher in 35 cases (2.6%). Other forms of restraint (such as a body cuff or wrap) were used in 37 cases (2.8%).

Injuries and Medical Attention

In 82 of the 1,404 CEW incidents (5.8%) one or more police officers suffered some type of injury. Most (68.3%) of these injuries were relatively minor, involving bruises, cuts, scrapes, and muscle strains. More serious cases (28%) involved such injuries as broken fingers, knee injuries, back injuries, and possible exposure to serious infectious disease such as hepatitis or HIV.

Subjects sustained some form of injury²⁸⁴ in 592 of the 1,404 incidents (42.3%). One in five of these subjects (126, or 21.3%) sustained injuries both related to the use of the CEW and unrelated to CEW use.

In total, 336 (23.9%) subjects suffered a CEW-related injury. Nearly all of these injuries (97.6%) were minor in nature, involving only the penetration of probe darts²⁸⁵ into the skin or welts from the application of the CEW in stun mode. In addition to puncture wounds, 17 subjects also sustained relatively minor injuries, such as cuts, from falling following incapacitation by the probe deployment. In eight cases the subject sustained more serious injuries, including two subjects who suffered lung collapse when the probe darts punctured their lungs, two subjects who lost consciousness when they fell on their heads when incapacitated, two subjects who suffered facial wounds (one from a fall and one from a puncture wound to the nose), one subject who fell and broke his ankle, and one subject who suffered a probe dart embedded in his clavicle bone.

In total, subjects suffered a non-CEW-related injury in 382 of the 1,404 CEW incidents (27.2%). These injuries were most commonly sustained during arrest (175 cases, or 45.8%) but many occurred prior to police arrival (147 cases, or 38.5%) due to involvement in a fight, assault, or self-harm. In 33 cases (8.6%) the subject inflicted injuries to themselves in the presence of police. In 27 cases (7.1%) it was unclear from the police report(s) when the injury occurred (that is, before or during arrest). For the most part (81.9%), non-CEW-related injuries were relatively minor in nature. Of the 59 more serious injuries, 31 (52.5%) were present prior to police arrival, seven (11.9%) were self-inflicted by the subject in the presence of police, and the remaining 21 (35.6%) occurred in the course of arresting the subject.

Two fatalities occurred in association with CEW incidents – both in Vancouver.

In 462 of the 1,404 incidents (32.9%) the subject involved in the CEW incident was examined by Provincial Ambulance Service (PAS)²⁸⁶ paramedics at the scene of the incident. In 870

283 In 66 cases (4.7% of the 1,404 incidents) the subject was not restrained following the use of the CEW.

284 As reported in the police records reviewed.

285 Although relatively minor, some of these penetration wounds did require stitches to close.

286 Also known as Emergency Health Service (EHS).

APPENDIX G

incidents (62%) paramedics were not called or did not attend.²⁸⁷ The subject refused to be examined by paramedics at the scene in 46 cases (3.3%). It was not clear from the police report(s) whether paramedics attended the scene of the incident or not in 26 cases (1.9%).

As shown in Table 22 below, examination by paramedics on the scene of the incident varied considerably between the police agencies.

Table 22: Paramedic Examination of Subject at Scene of Incident by Agency

Agency	Number of CEW Use Incidents	Paramedic Examination							
		Yes		No		Refused		Unknown	
		#	%	#	%	#	%	#	%
Abbotsford	97	21	21.6	68	70.1	3	3.1	5	5.2
Central Saanich	5	0	0.0	5	100.0	0	0.0	0	0.0
Delta	45	26	57.8	15	33.3	1	2.2	3	6.7
Transit Authority	6	3	50.0	3	50.0	0	0.0	0	0.0
Kitasoo Tribal	1	0	0.0	1	100.0	0	0.0	0	0.0
Nelson	3	0	0.0	2	66.7	0	0.0	1	33.3
New Westminster	195	49	25.1	137	70.3	8	4.1	1	0.5
Oak Bay	7	1	14.3	6	85.7	0	0.0	0	0.0
Port Moody	8	5	62.5	3	37.5	0	0.0	0	0.0
Saanich	43	22	51.2	20	46.5	1	2.3	0	0.0
Vancouver	297	211	71.0	73	24.6	12	4.0	1	0.3
Victoria	678	113	16.7	529	78.0	21	3.1	15	2.2
West Vancouver	19	11	57.9	8	42.1	0	0.0	0	0.0

In 519 cases (37%) the subject was transported to hospital from the scene by paramedics or by police. In nearly half of these cases (48.7%) the subject was arrested under provisions of the *Mental Health Act*.

Subjects received medical attention in police cells in 74 cases (5.3%). Subjects were transported to hospital after being booked into police cells in 59 cases (4.2%).

Arrest

The subject was arrested for *Criminal Code* violations following the CEW incident in two-thirds of cases (939 incidents, or 66.9%). The arrest rate varied from a low of 50 per cent (three of six cases) in relation to Transit Authority incidents to highs of 74.6 per cent (506 of 678

²⁸⁷ In a handful of cases paramedics were called to attend but did not due to high call demand. In these cases paramedics often attended to the subject in police cells.

incidents) in relation to Victoria incidents and 100 per cent (five of five incidents) in relation to Central Saanich incidents.

According to the police records reviewed,²⁸⁸ one-third of incidents (473 or 33.7%) led to *Criminal Code* charges against the subject. In 69 cases (4.9%) the subject was charged with resisting arrest or obstruction.

One in five CEW incidents (276 cases, or 19.7%) led to the arrest of the subject under the authority of the *Mental Health Act*. The highest rate of *Mental Health Act* arrests occurred in Vancouver (97 of 297 incidents, or 32.7%), followed by West Vancouver (six of 19 incidents, or 31.6%), Delta (14 of 45 incidents, or 31.1%), Abbotsford (30 of 97 incidents, or 30.9%), and Oak Bay (two of seven incidents, or 28.6%).

In nearly one in 10 cases (125, or 8.9%) the subject was not arrested under either *Criminal Code* or *Mental Health Act* provisions following the CEW incident. In 40 of these cases (32%) the CEW was used in display mode only. However, prior to their release 48 subjects (38.4%) had been exposed to a probe deployment of the CEW, 31 (24.8%) had been exposed to a stun deployment, and six (4.8%) had been exposed to both stun and probe modes of deployment.

Policy Compliance

Following review of CEW incident reports, researchers attempted to assess whether officer actions with respect to use of the CEW complied with departmental use-of-force policy. This analysis proved to be problematic, primarily because policy documents provided by the police agencies were often current policies implemented in 2008; that is, after the time period covered by this research. While some departments were contacted to obtain historical policy, tracking changes to policy for all of the agencies was beyond the scope of this project. As well, some departments had not defined specific CEW policy prior to 2008. In addition, several departments appear to be operating with draft policies that have not been filed with or approved by the Police Services Division.

Assessing policy compliance (where policy, or draft policy, did exist) was also difficult given the considerable discretion afforded to police officers in determining when CEW use is appropriate and what steps are necessary during and after use of the CEW.

The circumstances of each CEW incident were assessed against policies in six main areas:²⁸⁹

1. Was the CEW deployed in accordance with use-of-force policy? This area addresses the threshold question of whether or not use of the CEW was permitted by policy in view of the subject's behaviour and actions.
2. Were policy-prescribed steps taken before deployment of the CEW? This question encompasses such issues as whether or not the subject was warned that a CEW would be used if he or she failed to comply with police direction.

288 Information about charges was highly dependent upon the type of report(s) provided. Use-of-force reports and subject behaviour/officer response reports documented the circumstances of the incident and rarely included case outcome information.

289 Departments that did have CEW policy prior to 2008 did not necessarily have policy in each of these areas.

APPENDIX G

3. Were policy-prescribed steps taken while discharging the CEW? Issues here included whether police established a “lethal overwatch” prior to deployment of the CEW.
4. Was policy relating to multiple CEW deployments followed?
5. Was policy relating to duration of CEW deployment followed?
6. Were policy-prescribed steps taken after deployment of the CEW? This question concerned issues such as medical attention, the removal of probe darts, supervisor notification, and the completion of a CEW incident report (such as a Use of Force Report or a Subject Behaviour Report).

With respect to the first question of whether or not the subject’s behaviour justified the use of the CEW, the policies examined generally allow for a great deal of discretion or latitude in the use of the CEW by police officers, including reliance on the officers’ subjective judgments. In this regard, the policy of New Westminster (since June 2007) is representative of policy in this area. It states:

The Taser shall only be used upon subjects:

1. whom the Member has *reasonable and probable* grounds to *believe* are a danger to themselves or others, or
2. who need to be immediately controlled, and the Member *believes* will be actively aggressive/assaultive toward police or others, or
3. who pose a threat of serious bodily injury or death to the Member or others, and other available force options are *inappropriate or unreasonable* in the circumstances. [emphasis added]

Arguably, within such guidelines use of the CEW may be considered appropriate in every case. An officer’s subjective belief that the subject will become aggressive or assaultive – even when the subject’s actual behavior poses no immediate threat to anyone – is sufficient justification for use of the CEW. For example, researchers identified cases where the justification for CEW use (in both stun and probe modes) was borderline, such as where the subject’s only (passive) resistance was refusal to comply with police direction to get on the ground. However, researchers were not in a position to second-guess the judgment of the officers involved about the subject’s potentially assaultive behaviour.

Prior to 2008, Vancouver policy governing the specific use of CEWs consisted of the following statement:

The Vancouver Police Department supports the use of intermediate weapons by members who are qualified and/or certified to use them when lower levels of force (including other specific intermediate weapons) have been ineffective and/or inappropriate, and the use of higher levels of force (including other specific intermediate weapons) may not be justified and/or appropriate.

Based on this standard, all Vancouver CEW incidents complied with policy.

However, one example of how judgments about appropriate use-of-force alternatives may be supported is found in an incident reported by GVTAPS. In this case an intoxicated subject was slow to comply with police direction to put his beer down and display his hands. The constable determined that “a hands-on struggle was less desirable” and deployed the CEW probes.

In regard to the second policy area – steps required before the deployment of the CEW – few departments provided guidance prior to 2008.²⁹⁰ Among the exceptions is West Vancouver, where policy (since April 2003) suggests that display mode must be used first in all circumstances before stun or probe mode deployment. The policy states: “If force presence is unsuccessful, the member may then discharge the Taser at the subject that needs to be controlled, provided reasonable grounds exist to deploy such level of force (Probes fired or stun mode).” However, in eight of the 18 (42.1%) relevant²⁹¹ West Vancouver incidents the incident report contains no indication that display mode was used.

In regard to the third policy area – steps required while discharging the CEW – several departments suggest that lethal force cover be present while the CEW is deployed. However, most of these departments limit this guidance to situations where it is “reasonable and appropriate.” West Vancouver’s policy (since April 2003) is more prescriptive, providing that “the member should designate at least one member to provide lethal force cover.” Nevertheless, in 14 of the 18 (77.8%) relevant cases the incident reports reviewed gave no indication that a lethal force cover member was designated.

In regard to the fourth policy area – multiple use of the CEW – where pre-2008 policy exists the policies of several departments seemed to limit the use of the CEW in probe mode to a maximum of two cycles. These policies were notably silent about the maximum number of allowable applications of the CEW in stun mode. The language used often echoed the following example: “If control of a subject has not been obtained within five seconds after the application of the second set of darts, consider the Taser to be ineffective in controlling the subject and consider another appropriate force option to gain control.” The policies of both Victoria (since December 1998) and Delta (since January 2003) contain this guidance, but probe cycles were administered three or more times in 25 of the 239 (18.8%) Victoria incidents where probe mode was used, and in two of the 19 (10.5%) relevant probe deployment incidents in Delta.

New Westminster (since June 2007) policy states:

If the subject has failed to be controlled with the first set of darts due to the fact that one or more darts have missed the subject, the Member may discharge a second set of darts at the subject. If the failure is due to the weapon not affecting the subject, the trigger may be depressed again for one more five second cycle, or until the subject has been controlled (whichever comes first).

This implies that the maximum number of allowable probe cycles is two; however, in one New Westminster incident (which occurred after the above policy came into effect) the subject was exposed to seven probe cycles and was then stunned three times.

The language of West Vancouver’s policy (since April 2003) is stronger: “If control of a subject has not been obtained after the application of the second set of darts, members should consider other appropriate force options to gain control of the subject.” Again the implication is that a maximum of two probe cycles is permitted; however, in three of the 11 (27.3%) relevant West Vancouver incidents in which the CEW was used in probe mode, the CEW was cycled three or more times.

²⁹⁰ Current policies often address this area.

²⁹¹ That is, incidents that occurred after the policy was implemented.

APPENDIX G

Oak Bay's (May 2002²⁹²) policy is even more definitive. It states that "if control of subject has not been obtained within five seconds after the application of the second set of darts [where first set missed or failed to work], the officer must consider the Taser to be ineffective in controlling the subject and consider another appropriate force option to gain control." Nevertheless, in one Oak Bay incident in 2004, the subject was exposed to four probe cycles.

With respect to the fifth policy area – the allowable duration of CEW deployment – policy often refers to probe cycles of five seconds or less (the allowable length of a stun application is not specifically addressed). As previously reported, in half of all probe deployment incidents, information about probe duration was not recorded. Included in the cases where duration was recorded is a Port Moody case, in which after the first probe cycle of five seconds the subject attempted to get up. A second probe cycle was triggered and the trigger of the CEW was held down (to extend the default five-second duration of the cycle) until the power of the CEW was drained. Victoria policy (since December 1998) also limits applications to five seconds or less, but in several cases this maximum was exceeded. In one case the subject was exposed to five cycles for a total of 60 seconds. In another, the CEW was discharged for 40 seconds, followed by two more applications of 20 seconds each.

The last policy area concerns actions to be taken after deployment of the CEW. Most policy in this area was introduced after the time period relevant to this project. However, Victoria CEW policy has always required that a use-of-force report or a subject behaviour report be completed whenever "the weapon was discharged to cause a motor dysfunction." In 47 of 239 (19.7%) Victoria cases where probes were deployed, the Braidwood Commission received no such report (general occurrence reports were provided).

Prior to 2008 several departments gave policy direction concerning medical attention for the subject following deployment of the CEW. However, medical attention may not be required by policy as seen in New Westminster (June 2007) policy which states:

Once subject has been controlled using the Taser, Member should make every effort to do the following, where appropriate and reasonable to do so: ...

3. Monitor the subject and contact the Provincial Ambulance Service to attend the location.

Within the applicable time frame (mid-2007 to year end) there were eight incidents in New Westminster, including two probe deployments and one stun deployment. The ambulance service was not called in any of these cases.

Current Transit Authority (GVTAPS) policy (effective May 2007) states:

Every time a Taser has been deployed, the Member responsible for the deployment will:

1. Notify Emergency Health Services (EHS) to attend, if the deployment was successful, and have EHS personnel determine if the subject should be transported to a hospital...

In one of four relevant cases, the GVTAPS member did not call for the attendance of EHS.

292 This language is not in Oak Bay's current policy; however, it is not known when the newer policy came into effect, as it is not dated.

Public Complaints Related to Police Use of CEWs

At the request of the Braidwood Commission, the BC Office of the Police Complaint Commissioner (OPCC) provided information about public complaints it had received about police use of CEWs during the period 2001 through 2007. Based on this information there were 37 public complaints arising from incidents in which CEWs were alleged to have been used by police. Table 23 below presents the number of complaints per agency along with the disposition of the complaint.

From 2001 through 2007 no complaints were filed in relation to CEW use in Central Saanich, Nelson, or Port Moody.

The OPCC determined that no CEW was involved in five of the 37 incidents – that is, no CEW was present during the incident. The remaining 32 incidents represent 2.3 per cent of the 1,404 CEW incidents.

Table 23: Public Complaints Related to Police Use of CEWs by Agency, 2001 to 2007

Agency	Number of CEW Use Incidents	Number of Complaints		Disposition of Complaint						
		#	%	Withdrawn	No CEW Present	Unsubstantiated	Substantiated	Dismissed	Informally Resolved	Unresolved Open File
Abbotsford	97	3	3.1		1	1				1
Delta	45	1	2.2			1				
New Westminster	195	1	0.5			1				
Oak Bay	7	1	14.3					1		
Saanich	43	6	14.0	2		1			3	
Vancouver	297	8	2.7		2	4	1			1
Victoria	678	15	2.2		2	4		6	2	1
West Vancouver	19	2	10.5			1		1		
Total	1381	37	2.7	2	5	13	1	8	5	3

According to the OPCC only one complaint (3.1% of 32 complaints) of excessive use of the CEW was substantiated and the officer involved was subsequently suspended without pay for three days. Thirteen (40.6%) complaints were determined to be unsubstantiated by the OPCC and eight (25%) were summarily dismissed. Five complaints (15.6%) were informally resolved and two (6.3%) were withdrawn by the complainant. Three (9.4%) files are not yet resolved and remain open.

APPENDIX G

Of the 32 relevant incidents, police report(s) relating to 14 incidents were provided to the Braidwood Commission. In 18 cases, although it appears that a CEW was involved, no CEW incident report was provided to the Braidwood Commission by the police agency involved.

In relation to RCMP CEW use in BC, the Commission for Public Complaints Against the RCMP (CPC) reported that during the period from 2001 through the end of January 2008, 95 complaints (representing 6.5% of the 1,466 RCMP CEW incidents) originating in “E” Division were lodged with the CPC. It is unknown how many of these complaint incidents are included among the 1,466 RCMP CEW incidents. Nationally, the CPC’s “mini-audit comparing public complaints lodged with the Commission versus the existence of a Form 3996” (the RCMP’s Incident Information report) found that “68% of the Commission’s deployment complaints could not be accounted for” in the RCMP incident database.²⁹³

Conclusions

In the ongoing debate about police use of conducted energy weapons, the value of the weapon is often justified by both the police and the public based on its perceived usefulness as a less lethal alternative to deadly force. However, this review of CEW incidents indicates that CEWs are very often used in circumstances in which deadly force is not a legal option. While many incidents do involve a subject whose behaviour is “assaultive” (which the National Use of Force Framework defines as including aggressive body language such as glaring and clenching fists), very few incidents involve actions intended to or likely to cause grievous bodily harm or death to anyone – that is, actions that would legally justify the use of deadly force. In fact, in only one in 20 incidents did police establish a “lethal overwatch” by drawing their firearms prior to using the CEW.

Many incidents also involve resistance that is no more than “active,” which includes any physical resistance to police control, including fleeing from police. CEWs have also been deployed in situations that involve “passive” resistance to police direction, implying that in those cases the weapon was used as a “come-along” tool to encourage compliance with police commands. Notably, in nearly one in 10 cases, the subject was not arrested following use of the CEW.

The central question is: what is an appropriate threshold for use of the CEW? In this respect clear policy direction is essential to prevent the slow expansion of circumstances considered acceptable for use of the weapon. Review of departmental policy indicates that police have very broad latitude and discretion in determining when CEW use is allowable. While policy must not overly curtail police judgment of the appropriate use of force, policy must acknowledge that some circumstances do not justify the use of the CEW.

The contention that equipping police with CEWs reduces injuries to police and suspects is open to debate.²⁹⁴ There is no doubt that the CEW itself can cause injury to the suspect. As well, the deployment of the CEW does not preclude injuries to suspects and police sustained during the “take down” of a suspect during or following use of the CEW. Nor does CEW use ensure that other force options won’t be needed. In one-third of cases, probe deployment of the CEW was ineffective in subduing a subject. In these cases, the risk of injury has not been reduced.

293 Commission for Public Complaints Against the Royal Canadian Mounted Police, *RCMP Use of the Conducted Energy Weapon (CEW): Final Report* (Ottawa: The Commission, 2008).

294 See Gilbride, Bridget, “The Relationship Between the Use of Conducted Energy Weapons by Law Enforcement Agencies and Harm Reduction to Officers and Suspects,” (August 29, 2008). Internal Braidwood Inquiry research paper.

Once the CEW has been deployed, successfully or not, additional use of the weapon is not uncommon. In total 422 (30.1% of all 1,404 cases, or 38.5% of the 1,096 cases where stun or probe mode was used at least once) subjects were exposed to multiple stun applications, multiple probe cycles, or both. A better understanding of the safety of such use is needed.

This review of CEW incidents involving independent police agencies in BC was a complex and very labour-intensive undertaking. The results provide a much better understanding of CEW use in BC than has ever been available before. However, the picture is still incomplete. In several areas basic information about the incident could not be determined from the police report(s). Subject characteristics such as age, gender, and size, as well as CEW use characteristics such as the mode of deployment, the location of the subject's body targeted by the deployment, distance to subject of probe deployment, and the duration of probe cycles need to be recorded in a more systematic and comprehensive way. In addition, the comparison of incident reports provided to the Braidwood Commission with CEW complaints filed with the Office of the Police Complaint Commissioner indicates that more CEW incidents have occurred than have been included in this review.

Finally, information about the characteristics of CEW incidents needs to be accessible without resorting to manual methods. A single, uniform, and consistent reporting format feeding a common database structure could provide routine feedback regarding CEW usage and changes in usage patterns, and highlight policy areas in need of attention.²⁹⁵

²⁹⁵ For a more detailed discussion of reporting issues see Chan, Jennifer, "Police Reporting and the Conducted Energy Weapon," (August 20, 2008). Internal Braidwood Inquiry research paper.

APPENDIX 1: CEW INCIDENT FILE REVIEW CODING FORM

Note: the unit of analysis is the use of a CEW on an individual during a single event – if the CEW is used on two subjects during one event, it will be counted as two incidents and should be assigned two case numbers and recorded on two coding forms.

Case Number [_ _ _ _]

Date of Incident (code Year, Month, Day) [_ _ _ _ _]

Time of Day of Incident 1=day (6am-6pm) 2=night (6pm-6am) [_]

SUBJECT CHARACTERISTICS

Age (in years) [_ _]

Gender 1=male 2=female 3=unknown [_]

Physical Size 1=small 2=medium 3=large [_]

Race/Ethnicity (specify) [_____]

1=Caucasian 2=Aboriginal 3=Asian 4=South Asian 5=Black 6=Other 7=Middle Eastern 8=Hispanic

History of mental illness (known to police prior to incident) 1=yes [_]

History of violence (known to police prior to incident) 1=yes [_]

Preexisting medical conditions (e.g., pregnancy, heart disease, epilepsy, diabetes)

1=yes 2=no [_]

If yes, specify [_____]

TYPE OF INCIDENT TO WHICH POLICE RESPONDED

1. Domestic disturbance/violence
2. Suicide attempt/threat/self-injurious behaviour
3. Violence or threatened violence to others (fight)
4. Drug/alcohol intoxication
5. Disturbance
6. Robbery
7. Homicide
8. Person with gun
9. Person with knife
10. Break and enter
11. Destruction of property
12. Officer assist
13. Barricade
14. Serve warrant
15. Psychiatric disturbance/emotionally disturbed person (EDP)/"mental male"
16. Mental health/forensic psych worker assist

- | | | |
|-----|---|------------|
| 17. | Public assist | |
| 18. | Assault (includes sex assault) | |
| 19. | EHS/paramedics assist | |
| 20. | Members on patrol observe infraction or are approached by subject | |
| 21. | Hit and run (MVA) | |
| 22. | Investigate drug offence | |
| 23. | Home invasion | |
| 24. | Trespassing | |
| 25. | Impaired driving | |
| 26. | Mischief | |
| 27. | Theft | |
| 28. | MVA | |
| 29. | Suspicious person(s) | |
| 30. | Motor vehicle theft | |
| 31. | Child welfare assist (apprehension) | |
| 32. | Possession of stolen property | 99=unknown |
| 33. | GVTAPS assist | |
| 34. | Incomplete 911 call | |
| | Incident Type #1 | [] |
| | Incident Type #2 | [] |

LOCATION OF INCIDENT

- | | | |
|-----|---------------------------------|------------|
| 1. | Residence | |
| 2. | Hotel/SRO | |
| 3. | Street | |
| 4. | Public building | |
| 5. | Bar/Club | |
| 6. | Other business | |
| 7. | Hospital | |
| 8. | Beach/Park/Playing field | |
| 9. | Transit bus | |
| 10. | Police station | |
| 11. | Police cells | |
| 12. | Sky Train station/platform | |
| 13. | Ambulance | |
| 14. | Bushes | 99=unknown |
| 15. | Outside bar/club | |
| 16. | Parking lot/Underground parkade | |
| 17. | Other health care facility | |
| | | [] |

SUBJECT BEHAVIOURS/ACTIONS (As observed by members on scene)

(code 1 if present during incident, prior to use of CEW))

- | | |
|---|-----|
| Cooperative/compliant to directions | [] |
| Passive Resistance (refusal with little or no physical action, to cooperate; refusal to show hands) | [] |
| Agitated | [] |
| Pacing | [] |

APPENDIX G

Yelling	<input type="checkbox"/>
Smashing property	<input type="checkbox"/>
Verbally abusive/verbal threats/verbal aggression	<input type="checkbox"/>
Alcohol/Drug intoxication	<input type="checkbox"/>
Symptoms of “excited delirium”	<input type="checkbox"/>
Symptoms of drug induced psychosis	<input type="checkbox"/>
Symptoms of drug overdose	<input type="checkbox"/>
Active Resistance (non-assaultive physical action to resist; e.g., pulling away)	<input type="checkbox"/>
Assaultive (attempts to apply or applies force to any person; kicking, punching, threatening acts or gestures, aggressive body language, “pre-assault cues”)	<input type="checkbox"/>
Violence/threatened violence to police	<input type="checkbox"/>
Violence/threatened violence to self	<input type="checkbox"/>
Violence/threatened violence to others	<input type="checkbox"/>
Threatened suicide by cop scenario	<input type="checkbox"/>
Grievous bodily harm or death (actions intended to or likely to cause GBH or death; assault weapon weapon, actions that would result in serious injury to any person; actions warrant use of deadly force)	<input type="checkbox"/>
Officer assaulted	<input type="checkbox"/>

WEAPONS

Armed subject	1=yes	<input type="checkbox"/>
Type of weapon: (code 1 if present)		
Firearm		<input type="checkbox"/>
Edged (knife, glass, scissors)		<input type="checkbox"/>
Blunt force (bat, hockey stick, pipe, hammer)		<input type="checkbox"/>
Pointed (needle, fork, pickaxe)		<input type="checkbox"/>

NATURE OF CEW DEPLOYMENT

Warning/Challenge issued	1=yes	2=no	3=uk	<input type="checkbox"/>	
Display only/compliance (presence, display, “spark”, laser sight)	1=yes	2=no	3=uk	<input type="checkbox"/>	
Number of display only presentations				<input type="checkbox"/>	
Display only order (in relation to CEW use, 1 st , 2 nd , 3 rd)				<input type="checkbox"/>	
Display only – Effective?	1=yes	2=no	3=ultimately	4=temporarily	<input type="checkbox"/>
Stun Deployment (drive stun, push stun, contact stun)	1=yes	2=no	3=uk	<input type="checkbox"/>	
Number of stun deployments (code 99 for unknown)				<input type="checkbox"/>	
Stun deployment order (in relation to CEW use, 1 st , 2 nd , 3 rd , etc.)				<input type="checkbox"/>	
Location on subject’s body (specify; if multiple deployment list in order)				<input type="text"/>	
				<input type="text"/>	
				<input type="text"/>	
Stun – Effective?	1=yes	2=no	3=ultimately	4=temporarily	<input type="checkbox"/>
Probe Deployment	1=yes	2=no	3=uk	<input type="checkbox"/>	

Number of probe deployments/cycles (code 99 for unknown)

Probe deployment order (in relation to CEW use, 1st, 2nd, 3rd)

Probe deployment distance (in feet, if multiple deployments list in order) 1st
 2nd
 3rd

Probe deployment duration (in seconds; if multiple deployments list in order) 1st
 2nd
 3rd

Location on subject's body (specify; if multiple deployments list in order)

Subject in vulnerable position (e.g., roof, tree, open window) 1=yes 2=no 3=uk

Probe – Effective? 1=yes 2=no 3=ultimately 4=temporarily 5=uk

If ineffective, why? 1=miss 2=technical problem 3=poor conduction 4=uk

If probe darts embedded in skin, who removed them?
 1=police 2=PAS 3=hospital physician 4=uk 5=N/A 6=subject

If CEW was used in any mode, what model of CEW was used?

1=Taser M26 2=TaserX26 3=Unknown

Was CEW used in stun or probe mode against bare skin?

1=yes

USE OF OTHER FORCE OPTIONS

Verbal intervention: (dialogue)	before CEW use	1=yes	<input type="text"/>
	during CEW use	1=yes	<input type="text"/>
	after CEW use	1=yes	<input type="text"/>
“Soft” physical control: (arm & wrist locks, hands on force to pressure points)	before CEW use	1=yes	<input type="text"/>
	during CEW use	1=yes	<input type="text"/>
	after CEW use	1=yes	<input type="text"/>
“Hard” physical control: (open & empty hand strikes, punches, kicks to target areas)	before CEW use	1=yes	<input type="text"/>
	during CEW use	1=yes	<input type="text"/>
	after CEW use	1=yes	<input type="text"/>
OC/Pepper spray warning: (presence, display)	before CEW use	1=yes	<input type="text"/>
	during CEW use	1=yes	<input type="text"/>
	after CEW use	1=yes	<input type="text"/>
OC/Pepper spray use:	before CEW use	1=yes	<input type="text"/>
	during CEW use	1=yes	<input type="text"/>
	after CEW use	1=yes	<input type="text"/>
Baton use: (ASP)	before CEW use	1=yes	<input type="text"/>
	during CEW use	1=yes	<input type="text"/>
	after CEW use	1=yes	<input type="text"/>

APPENDIX G

Bean bag shotgun use:	before CEW use	1=yes	<input type="checkbox"/>
	during CEW use	1=yes	<input type="checkbox"/>
	after CEW use	1=yes	<input type="checkbox"/>
ARWEN gun use: (flexible baton)	before CEW use	1=yes	<input type="checkbox"/>
	during CEW use	1=yes	<input type="checkbox"/>
	after CEW use	1=yes	<input type="checkbox"/>
Dog Warning (presence)	before CEW use	1=yes	<input type="checkbox"/>
	during CEW use	1=yes	<input type="checkbox"/>
	after CEW use	1=yes	<input type="checkbox"/>
Dogs:	before CEW use	1=yes	<input type="checkbox"/>
	during CEW use	1=yes	<input type="checkbox"/>
	after CEW use	1=yes	<input type="checkbox"/>
Firearm warning: (display; "lethal overwatch")	before CEW use	1=yes	<input type="checkbox"/>
	during CEW use	1=yes	<input type="checkbox"/>
	after CEW use	1=yes	<input type="checkbox"/>
Firearm use:	before CEW use	1=yes	<input type="checkbox"/>
	during CEW use	1=yes	<input type="checkbox"/>
	after CEW use	1=yes	<input type="checkbox"/>
Restraints: (handcuffs, zip straps, hobble, hogtie)	before CEW use	1=yes	<input type="checkbox"/>
	during CEW use	1=yes	<input type="checkbox"/>
	after CEW use (includes "taken into custody")	1=yes	<input type="checkbox"/>
Highest level of restraint applied (specify)		<input type="text"/>	

INJURIES

Injuries to police	1=yes	2=no	3=unknown	<input type="checkbox"/>
If yes, note severity	1=minor	2=serious	3=unknown	<input type="checkbox"/>
If yes, specify nature of injury	<input type="text"/>			
Injuries to subject (related to CEW use)	1=yes	2=no	3=unknown	<input type="checkbox"/>
If yes, note severity	1=minor	2=serious	3=unknown	<input type="checkbox"/>
If yes, specify nature of injury	<input type="text"/>			
Injuries to subject (unrelated to CEW use)	1=yes	2=no	3=unknown	<input type="checkbox"/>
If yes, note severity	1=minor	2=serious	3=unknown	<input type="checkbox"/>
If yes, note:	1=injuries present prior to police arrival 2=injuries self-inflicted during incident 3=injuries sustained during arrest 4=unknown when injuries sustained (before or during arrest)			
	<input type="checkbox"/>			

Subject examined by paramedics (PAS) on scene	1=yes	2=no	3=refused	<input type="checkbox"/>
Subject transported to hospital	1=yes			<input type="checkbox"/>
Subject given medical attention in cells	1=yes			<input type="checkbox"/>
Subject transported to hospital after booked into cells	1=yes			<input type="checkbox"/>
Fatality	1=yes			<input type="checkbox"/>

ARREST

Suspect arrested – Criminal Code	1=yes	2=no	3=unknown	<input type="checkbox"/>
Suspect arrested – Mental Health Act	1=yes	2=no	3=unknown	<input type="checkbox"/>
Suspect charged (new charges related to incident)	1=yes	2=no	3=unknown	<input type="checkbox"/>
Was suspect charged with resisting arrest? (includes obstruction)	1=yes	2=no	3=unknown	<input type="checkbox"/>

POLICY CONSIDERATIONS (Reference departmental use-of-force policy to complete this section)
 (code 3=unknown 4=Not applicable 5=No policy 6=Borderline/discretion)

Was the CEW deployed in accordance with use-of-force policy? (i.e., subject actions warranted use of CEW) 1=yes 2=no ☐
 If not, explain:

Were policy prescribed steps taken before deployment of the CEW? (eg., was a warning/challenge issued?) 1=yes 2=no ☐
 If not, explain:

Were policy prescribed steps taken while discharging the CEW? (eg., was the CEW aimed at an allowable part of the subject's body?) 1=yes 2=no ☐
 If not, explain:

Was the CEW deployed (stun or probe) in the presence of flammable vapors or liquids? 1=yes 2=no ☐

Was policy relating to multiple CEW deployments followed? 1=yes 2=no ☐
 If not, explain:


Was policy relating to duration of CEW deployment followed? 1=yes 2=no ☐
 If not, explain:

Were policy prescribed steps to be taken after deployment of the CEW followed? (eg., removal of probes, attendance of PAS, prevention of positional asphyxia) 1=yes 2=no ☐
 If not, explain:

Was photographic evidence collected (e.g., of injuries)? 1=yes 2=no ☐

Note any other comments or observations on the reverse of this page.

Use of Conducted Energy Weapons by the Sheriff Services in British Columbia, 2001–2007



This review of 127 reported incidents of conducted energy weapon (CEW) usage by sheriffs and sheriff deputies in British Columbia includes descriptions of subject characteristics and behaviours, incident type and location, mode of CEW deployment, use of other force options, injuries, and policy compliance.

Prepared for the Thomas R. Braidwood, Q.C., Commissions of Inquiry

by Karen A. Ryan

November 5, 2008

Table of Contents

LIST OF TABLES.....	507
INTRODUCTION.....	508
METHODOLOGY	508
CONTEXT	509
RESULTS	509
Subject Characteristics.....	509
Incident Characteristics.....	510
Subject Behaviours/Actions.....	512
Weapons	513
Nature of CEW Deployment.....	513
Use of the CEW in Display Mode	513
Use of the CEW in Stun Mode	514
Use of the CEW in Probe Mode.....	514
Use of the CEW in Stun and Probe Modes	515
Subject Behaviour and the Use of Conducted Energy Weapons.....	515
Use of Other Force Options	516
Injuries and Medical Attention	517
Policy Compliance	517
Conclusions.....	517
APPENDIX 1: CEW INCIDENT FILE REVIEW (SHERIFFS) CODING FORM.....	518

LIST OF TABLES

<i>Table 1: Number of CEW Incidents by Year</i>	<i>509</i>
<i>Table 2: Number of CEW Incidents by Originating Office</i>	<i>511</i>
<i>Table 3: Subject Behaviours/Actions</i>	<i>512</i>
<i>Table 4: Method of CEW Use by Highest Level of Subject Resistance.....</i>	<i>516</i>
<i>Table 5: Use of Other Intervention Methods or Use-of-Force Options in Conjunction with CEW Use.....</i>	<i>516</i>

INTRODUCTION

Phase One (the “Study Commission”) of the Braidwood, Q.C., Commissions of Inquiry was mandated to “inquire into and report on the use of conducted energy weapons” by sheriffs in the performance of their duties and the exercise of their powers under the *Sheriff Act*. In partial fulfillment of this mandate the Commission undertook a review of all CEW incidents involving Sheriff Services Division officers in British Columbia.²⁹⁶

METHODOLOGY

In May 2008 a request was made to the Ministry of the Attorney General, asking for “CEW incident reports,” including any video records of CEW incidents, dating from 2001 to the end of 2007.

In order to facilitate and expedite access to documents and videos, Sharon Samuels, Research Counsel, negotiated and signed a confidentiality agreement with the Ministry of the Attorney General (and approved by the Freedom of Information and Protection of Privacy Office) that ensured that the privacy of individuals involved in CEW incidents (both staff and subjects) would be safeguarded by the Commission.

A coding form (see Appendix 1) was developed to capture information about subject characteristics and behaviours, incident type and location, mode of CEW deployment, use of other force options, injuries, and policy compliance. File coding was completed in September 2008.²⁹⁷

For the purposes of this research, the unit of analysis was defined as “the discharge of a CEW on an individual during a single event.” If the CEW was used in stun or probe mode on more than one subject during a single event, a “CEW Incident File Review Coding Form” was completed for each subject and would be counted as multiple instances of CEW use. If the CEW was used as a display only/compliance tool on multiple subjects, a single coding form was completed for the incident.

Commission researchers met with a senior member of Sheriff Services in August 2008 to view video records of CEW incidents. In total 16 video records (including CCTV images) were viewed, including 14 probe deployment incidents and two display compliance incidents. “TASER Deployment Reports” and/or “Court Services Incident Reports” were reviewed in Ministry of the Attorney General offices as per the above noted confidentiality agreement. Incidents reports relating to 127 CEW use incidents were provided to researchers for review.²⁹⁸

The period covered by this review is from 2001 (when sheriffs and sheriff’s deputies were first equipped with CEWs) through to the end of 2007.

296 Sheriff Services (Court Services Branch) is responsible for court security, escort of prisoners, detention of prisoners, jury management, service of court-related documents, execution of court orders and warrants, and coroner’s court assistance.

297 Significant research assistance was provided by Jennifer B. Morgan, who completed the file coding and provided general research support.

298 A “TASER Deployment Report Summary” provided by Sheriff Services indicates that between October 2001 and the end of 2007, 128 incidents had been reported; however, one report (involving a probe deployment) was not included in the package of reports provided to the Braidwood Commission. The summary also included reports of 53 “accidental discharges” of a CEW; however, as no subject was involved these incidents are not included in the review.

CONTEXT

The following information provides background for the use of CEWs by BC Sheriff Services.

Sheriff and deputy sheriff officers were given access to CEWs beginning in 2001 when the service obtained 80 units. In 2005, 24 units were added to inventory for a total of 104. In 2006, 95 units were available for use, and in 2007, sheriffs and sheriff's deputies had access to 91 units. CEWs are issued to officers on an as-needed basis and are not carried routinely.

The number of regular deputy sheriffs employed province-wide has grown slightly over this time period from 438 in 2001 to 457 in 2007.²⁹⁹

Ministry of Attorney General operational volume statistics indicate that Sheriff Services were responsible for escorting 125,000 prisoners in 2005/2006 and 124,600 prisoners in 2006/2007.³⁰⁰ During the same period officers provided courthouse security to 44 courthouses in the province.

RESULTS

Incident reports relating to 127 CEW use events dating from October 2001 through to the end of 2007 were reviewed. Table 1 below lists the number of incidents per year.

Table 1: Number of CEW Incidents by Year

Year	Number of CEW Incidents	Percentage of Total
2001	10	7.9
2002	18	14.2
2003	19	15.0
2004	14	11.0
2005	22	17.3
2006	21	16.5
2007	23	18.1
Total	127	100.0

Subject Characteristics

Nearly all of the 127 reported incidents involved male subjects (92.1%). Eight incidents (6.3%) involved female subjects. In two instances the gender of the subject was not indicated.

Most of the subjects of the CEW incidents were adult prisoners (112, or 88.2%). Most of these prisoners were male (105). Four incidents (3.1%) involved youth prisoners (three males

²⁹⁹ Throughout this time period Sheriff Services also included an estimated 30 managers. All figures provided by Sheriff Policy and Projects, Court Services Branch.

³⁰⁰ www.ag.gov.bc.ca/public/ministry_operational_volumes.pdf

APPENDIX H

and one female) and seven incidents (5.5%) involved members of the public (five males and two females). In four cases the type of subject was not indicated.

The subject's age at the time of the CEW incident was rarely recorded in the reports reviewed. In 103 cases the subject's age was unknown. In relation to the 24 cases where age was known, the average age was 31 years, with a minimum age of 19, a maximum age of 44, and a median age of 29.5.

The race or ethnicity of the subject was not recorded in the incident reports reviewed.

A history of mental illness was noted for 38 (29.9%) subjects.

Nearly two-thirds (64.6%) of incident reports noted that the subject had a history of violence.

Incident Characteristics

In the majority of cases the primary type of duty being performed by sheriffs or deputy sheriffs when the CEW incident occurred was jail/holding cell security (91 cases, or 71.7%).³⁰¹ Eighteen incidents (14.2%) occurred during the performance of escort duties. Sixteen (12.6%) incidents occurred during the provision of criminal court security and one (0.8%) was related to civil court security. The remaining case concerned "other" duties.³⁰²

The primary type of event occasioning the use of a CEW was often extraction or placement of a prisoner in a cell (53 cases, or 41.7%). Twenty-two incidents involved prisoner transfer (17.3%), while the primary event was a cell search in 11 cases (8.7%) and a prisoner search in 11 (8.7%) cases. The remaining 30 incidents involved a variety of event types, including maintaining cell order, maintaining courtroom order, taking remanded prisoners into custody, and serving court orders or warrants.

With respect to the location of the CEW incident, just over half (67 cases, or 52.8%) occurred in courthouse/sheriff's cells. Nineteen incidents (15%) took place in police cells, 17 (13.4%) happened in a courtroom or in public areas of a courthouse, and seven (5.5%) occurred in prison cells (pretrial centre). Six incidents (4.7%) occurred in a motor vehicle during transport and five incidents (3.9%) took place in a loading area or transfer point. One incident (0.8%) took place in each of the following locations: prison cell of a regional correctional centre, jail interview room, and hospital. In three cases, the location of the incident was not indicated.

Table 2 below lists the number of CEW incidents by the location (or type) of the sheriff's office providing service. The largest proportion of incidents (26%) originated with the Surrey office, which provides services to the Surrey Pretrial Centre.

301 In 15 of these cases, Sheriff Services officers were also tasked with escort duties. In another case, jail security duties were combined with criminal court security duties.

302 As the case specifics could not potentially identify the case, no other details are provided here.

Table 2: Number of CEW Incidents by Originating Office

Office	Number of CEW Incidents	Percentage of Total
Abbotsford	15	11.8
Chilliwack	6	4.7
Courtenay	2	1.6
Cranbrook	1	0.8
Fort St. John	1	0.8
Lower Mainland Regional Escorts	7	5.5
Vancouver	12	9.4
Nanaimo	3	2.4
New Westminster	2	1.6
North Vancouver	2	1.6
Port Coquitlam	8	6.3
Powell River	2	1.6
Prince George	5	3.9
Richmond	3	2.4
Salmon Arm	1	0.8
Sechelt	2	1.6
Smithers	1	0.8
Surrey	33	26.0
Victoria	21	16.5
Total	127	100.0

Subject Behaviours/Actions

Incident descriptions, narratives, and synopses of events recorded in the reports completed by Sheriff Services staff were used to extract the characteristics of subject behaviours or actions as observed by staff members on the scene of the CEW use incident. Levels of resistance as outlined in the National Use of Force Framework were supplemented with other descriptors of subject behaviour as noted in the reports. Table 3 below lists the frequency that these behaviours or actions were observed and noted by Sheriff Services staff.

Table 3: Subject Behaviours/Actions

Subject Behaviours/Actions	Frequency (N=127)	Percentage
Cooperative/compliant to directions	3	2.4
Passive resistance ³⁰³	1	0.8
Agitated	21	16.5
Pacing	1	0.8
Yelling	20	15.7
Disturbance	13	10.2
Smashing/damaging property	17	13.4
Verbally abusive/verbal threats/verbal aggression	58	45.7
Active resistance ³⁰⁴	76	59.8
Assaultive ³⁰⁵	53	41.7
Violence/threatened violence to staff	16	12.6
Violence/threatened violence to self	5	3.9
Violence/threatened violence to others	28	22.0
Escape/escape attempt	2	1.6
Grievous bodily harm or death ³⁰⁶	0	0.0
Staff member assaulted	4	3.1

Note: Each incident may contain multiple (not mutually exclusive) descriptors of subject behaviour/actions (including levels of resistance).

³⁰³ Passive resistance is defined as refusal, with little or no physical action, to cooperate; refusal to show hands.

³⁰⁴ Active resistance is defined as non-assaultive physical action to resist; e.g., pulling away.

³⁰⁵ Assaultive is defined as attempts to apply or application of force to any person; kicking, punching, threatening acts or gestures, aggressive body language, "pre-assault cues."

³⁰⁶ Grievous bodily harm or death is defined as actions intended to or likely to cause grievous bodily harm or death; assault with weapon; actions that would result in serious injury to any person; actions that warrant use of deadly force.

Weapons

In three incidents (2.4%) the subject of the CEW use incident was armed with some type of weapon. In two instances the subject was armed with a blunt weapon and one instance involved a pointed weapon.

Nature of CEW Deployment

In 89 (70.1%) of the 127 CEW incidents the subject was warned that a CEW might be used if he or she failed to comply with direction. In almost one-quarter (23.6%) of these cases, the subject was warned more than once. In none of the 89 incidents was a warning alone sufficient to gain the subject's compliance. In 66 cases (74.2%) the warning was followed or used in conjunction with a display of the CEW in an attempt to gain compliance with no further use of the CEW.

In relation to the remaining 23 of 89 cases where the subject was warned that the CEW might be used:

- The CEW was displayed and then used in probe mode in 10 cases (11.2%).
- The CEW was displayed and then used in stun mode in 10 cases (11.2%).
- The CEW was displayed and then used in both stun and probe modes in three cases (3.4%).

In total, display mode usage of the CEW occurred in 126 of the 127 cases (99.2%). The CEW was used in display mode only (with no stun or probe mode usage) in over three-quarters of the 127 incidents (101 cases, or 79.5%).

In total, use of the CEW in stun mode occurred in 14 of the 127 cases (11%). The CEW was never used in stun mode only (with no display or probe mode usage).

In total, the CEW was used in probe mode in 15 of the 127 cases (11.8%). In one case, only probe mode was used (with no display or stun mode usage).

The deployment of the CEW in both stun and probe mode (following display of the weapon) occurred in three incidents (2.4%).

In all incidents the CEW used was the TASER M26, the CEW used exclusively by the Sheriff Services.

The following four sections will review the more detailed results relating to display mode, stun mode, probe mode, and combined stun and probe mode usage.

Use of the CEW in Display Mode

As previously reported, display of the CEW in the attempt to gain subject compliance was present in 126, or 99.2 per cent, of the 127 CEW incidents. This type of use of the CEW includes simple display of the weapon, "sparking" of the weapon, and targeting of the laser sight on the subject. This method was often used (70.6%) in conjunction with one or more verbal warnings.

APPENDIX H

In most cases (122 cases, or 96.8%) one attempt to gain the subject's compliance through the display of the CEW occurred. In four cases (3.2%) two attempts were made to gain compliance via this method.

In over three-quarters of incidents (102 of 126, or 81%) in which display compliance was attempted the method was effective (or ultimately effective, where multiple attempts were made) in gaining the subject's compliance. This method was ineffective in 23 (18.3%) cases and only temporarily effective in one (0.8%) case.

Where display compliance was ineffective the CEW was subsequently used in probe mode in 10 cases (43.5%), stun mode in 10 cases (43.5%), and both stun and probe modes in three cases (13%). In the single case where display compliance was only temporarily effective, no other CEW use was recorded.

Use of the CEW in Stun Mode

As previously reported, use of the CEW in stun mode occurred in 14 of the 127 cases (11%).

In all cases, use of stun mode was preceded by an attempt to gain compliance through display of the weapon. In three cases (21.4%) use of the CEW in probe mode also preceded the stun mode deployment of the CEW.

In over three-quarters of the 14 incidents (11 cases, or 78.6%) in which the CEW was used in stun mode the subject was exposed to one stun deployment. In three cases (21.4%) the subject was exposed to two stun deployments.

The single or first stun deployment most commonly targeted the subject's back (five cases, or 35.7%), followed by the subject's buttocks (three cases, or 21.4%), ribs (two cases, or 14.3%), abdomen (one case, or 7.1%), and thigh (one case, or 7.1%). In two cases, the location on the subject's body targeted by the stun deployment was not noted in the incident report. In the three cases where there was a second stun deployment, the targeted area was the back, the buttocks, and unknown.

Use of the CEW in stun mode was effective (or ultimately effective in the case of multiple stuns) in controlling the subject in all cases.

Use of the CEW in Probe Mode

As previously reported, the CEW was used in probe mode in 15 of the 127 cases (11.8%).

In most probe mode incidents (14, or 93.3%) deployment followed display of the weapon. The CEW was used in probe mode without a prior attempt to gain compliance through either display of the weapon or a verbal warning in only one case.

Most probe mode incidents (12 of 15, or 80%) involved a single probe deployment cycle. Three subjects (20%) were exposed to two probe cycles.

Information about the distance the officer was from the subject when the CEW probes were fired was not recorded in three incident reports. The deployment distance was between one foot (three cases) and 10 feet (three cases) where this information had been recorded (average distance: 5.5 feet).

The duration of the probe cycles was recorded in 14 cases. In all of these cases the duration of the probe cycles was listed as five seconds (the default duration) or less.

In one-third of probe use incidents (five cases, or 33.3%) the location on the subject's body hit by the probe darts was not recorded in the incident report. Among the 10 cases where the body location was known the most common location was the subject's chest (50%), followed by the back (20%), torso (10%), arm (10%), and leg (10%).

In one case (10%) the probe darts hit the subject's bare skin.

Use of the CEW in probe mode was effective (or ultimately effective in the case of multiple probe cycles) in controlling the subject in 11 incidents (73.3%). The method was ineffective in two incidents (13.3%) and only temporarily effective in two incidents (13.3%). In relation to the four cases where the probe deployment was ineffective or only temporarily effective, the method failed due to poor electrical conduction in three cases and a technical problem with the CEW in one case.

One or both probe darts were embedded in the subject's skin in 12 cases. In these cases the dart(s) was/were removed by a hospital physician in four cases (33.3%), Sheriff Services officers in two cases (16.7%), and the subject in one case (8.3%). Information about dart removal was missing for five incidents (41.7%).

Use of the CEW in Stun and Probe Modes

In three of the 127 (2.4%) CEW use incidents, the CEW was deployed in both stun and probe modes (always following an attempt to gain compliance through display of the weapon). In two of these cases, a single probe cycle was followed by a single stun mode deployment. In the third case, one probe cycle was followed by two stun mode applications.

Subject Behaviour and the Use of Conducted Energy Weapons

Thus far, the review of CEW use by Sheriff Services officers has presented the characteristics of subject behaviour and the nature of CEW use in isolation from each other. However, the justification for the use and method of use of the CEW is dependent upon the behaviour of the subject. This section will summarize how the CEW has been used by sheriff officers when dealing with subjects who displayed various levels of resistance.

Table 4 presents the methods of CEW use in the context of the highest level of subject resistance faced by Sheriff Services officers. Subject resistance is categorized according to the National Use of Force Framework, which describes subject behaviour as cooperative, passive resistance, active resistance, assaultive, and posing a threat of grievous bodily harm or death to anyone. As can be seen from this analysis, the CEW was not deployed in stun or probe mode when the subject was displaying anything less than active resistance. Most stun and/or probe deployment incidents (21 of 26, 80.8%) involved subjects displaying assaultive resistance, but in no case was the subject posing an immediate threat of gross bodily harm or death.

Table 4: Method of CEW Use by Highest Level of Subject Resistance

Highest Level of Resistance	Cooperative	Passive	Active	Assaultive	GBH/Death	Other	Total
CEW Use							
Display Only Deployment	3	1	31	32	0	34	101
Display & Stun	0	0	2	9	0	0	11
Display & Probe	0	0	3	8	0	0	11
Stun Only	0	0	0	0	0	0	0
Probe Only	0	0	0	1	0	0	1
Stun & Probe	0	0	0	0	0	0	0
Display & Stun & Probe	0	0	0	3	0	0	3
Total	3	1	36	53	0	34	127

Note: The “other” category includes all cases where the subject’s behaviour did not involve any of the National Use of Force Framework resistance categories. In 20 of the 34 cases in this category, the subject had verbally threatened violence to others.

Use of Other Force Options

In addition to the CEW, Sheriff Services staff also recorded the use of other intervention methods or force options to control subjects. Table 5 below lists the frequency with which these methods were used before, during, or after use of the CEW.

Table 5: Use of Other Intervention Methods or Use-of-Force Options in Conjunction with CEW Use

Intervention Method	Before CEW Use		During CEW Use		After CEW Use	
	Total (N=127)	%	Total (N=127)	%	Total (N=127)	%
Verbal Intervention	121	95.3	6	4.7	1	0.8
“Soft” Physical Control	27	21.3	2	1.6	13	10.2
“Hard” Physical Control	11	8.7	1	0.8	2	1.6
Restraints	7	5.5	1	0.8	96	75.6

Note: “Soft” physical control includes arm and wrist locks, hands-on force to pressure points, and taking the subject to the ground. “Hard” physical control includes open and empty hand strikes, punches, and kicks to target areas.

Verbal intervention before CEW use often (87 cases, or 71.9%) comprised or included a verbal warning that the CEW might be used if the subject refused to comply with direction.

In relation to the seven cases where the subject was restrained prior to use of the CEW, the CEW was displayed only.

In most CEW incidents (75.6%) the subject was restrained following the use of the CEW. Most commonly (56 of 96 cases, or 58.3%) the subject was handcuffed only. In 21 cases (21.9%) the subject was both handcuffed and put in leg irons. Another nine subjects (9.4%) were handcuffed, put in leg irons, and also restrained by another form of restraint (such as a belly chain). In three cases (3.1%) handcuffs were combined with another form of restraint other than leg irons (such as a belly chain). In seven cases (7.3%) the type of restraint used was not recorded.

Injuries and Medical Attention

In six of the 127 CEW incidents (4.7%) one or more Sheriff Services officers suffered some type of injury. All of these injuries were described as minor in nature (including bruises, cuts, and strains).

The subject sustained some form of injury in 15 of the 127 (11.8%) CEW incidents. Three injured subjects (20%) sustained injuries both related to the use of the CEW and unrelated to CEW use.

In total, eight (6.3%) subjects suffered a CEW-related injury. All of these injuries were described as minor in nature and involved the penetration of probe darts into the skin.

A non-CEW-related injury was suffered by 10 subjects (7.9%). One-half of these injuries (five) occurred during intervention by Sheriff Services officers. Four injuries occurred prior to intervention by officers. One injury was self-inflicted by the subject during the incident. For the most part (90%), non-CEW-related injuries were relatively minor in nature. The single serious injury occurred during intervention by Sheriff Services officers.

Subjects were checked by medical staff on the scene following eight incidents (6.3%). Four subjects (3.1%) were examined by Provincial Ambulance Service paramedics. Seven subjects (5.5%) were transported to hospital.

Policy Compliance

The characteristics of CEW use incidents were compared to Sheriff Services policy regarding use of the CEW. This review concluded that policy compliance with respect to actions to be taken before, during, and after CEW use is high.

Conclusions

The review of CEW use by sheriffs and sheriff's deputies in BC found that CEWs are used relatively rarely. From 2001 through 2007, the CEW was used 127 times, and in the vast majority of these cases (79.5%), the weapon was displayed to gain or maintain a subject's cooperation and compliance without any stun or probe mode usage.

In addition, the CEW was not deployed in stun or probe mode when the subject was displaying anything less than active resistance. Most stun and/or probe deployment incidents (21 of 26, 80.8%) involved subjects displaying assaultive resistance, but in no case was the subject posing an immediate threat of gross bodily harm or death.

APPENDIX 1: CEW INCIDENT FILE REVIEW (SHERIFFS) CODING FORM

Note: the unit of analysis is the discharge of a CEW on an individual during a single event – if the CEW is used (in stun or probe mode) on two subjects during one event, it will be counted as two incidents and should be assigned two case numbers and recorded on two coding forms. If the CEW is used as a display only/compliance tool on multiple subjects, complete a single coding form for the incident.

Case Number [_ _ _ _]

Date of Incident (code Year, Month, Day) [_ _ _ _ _]

Lighting 1=good 2=poor [_]

SUBJECT CHARACTERISTICS

Age (in years) [_ _]

Gender 1=male 2=female 3=unknown [_]

Physical Size 1=small 2=medium 3=large [_]

Race/Ethnicity (specify) [_ _ _ _ _]
1=Caucasian 2=Aboriginal 3=Asian 4=South Asian 5=Black 6=Other 7=Middle Eastern 8=Hispanic

History of mental illness (known to staff prior to incident) 1=yes [_]

History of violence (known to staff prior to incident) 1=yes [_]

Preexisting medical conditions (e.g., pregnancy, heart disease, epilepsy, diabetes)
1=yes 2=no [_]

If yes, specify [_ _ _ _ _]

Subject type 1=adult prisoner 2=youth prisoner 3=member of public 5=other [_]

ORIGINATING OFFICE (specify) [_ _ _ _ _]

TYPE OF DUTY

- | | |
|------------------------------|---|
| 1. Escort | 4. Court Security (civil) |
| 2. Jail Security | 5. Document Service |
| 3. Court Security (criminal) | 6. Other (specify) [_ _ _ _ _] |
| | Duty Type #1 [_] |
| | Duty Type #2 [_] |

TYPE OF EVENT

1. Cell extraction or placement
2. Cell search
3. Prisoner search
4. Prisoner transfer
5. Other (specify)

[_____]

Event Type #1 []

Event Type #2 []

LOCATION OF INCIDENT

1. Police cells
2. Courthouse/sheriff's cells
3. Prison cell (pre-trial centre)
4. Prison cell (regional corrections centre)
5. Loading area/transfer point
6. In transit (motor vehicle)
7. Courtroom/courthouse public areas
8. Jail interview room
9. Hospital

[]

SUBJECT BEHAVIOURS/ACTIONS (As observed by sheriffs on scene)

(code 1 if present during incident)

- | | |
|--|-----|
| Cooperative/compliant to directions | [] |
| Passive Resistance (refusal with little or no physical action, to cooperate; refusal to show hands) | [] |
| Agitated | [] |
| Pacing | [] |
| Yelling | [] |
| Smashing property | [] |
| Disturbance | [] |
| Verbally abusive/verbal threats/verbal aggression | [] |
| Alcohol/Drug intoxication | [] |
| Symptoms of mental health crisis | [] |
| Symptoms of "excited delirium" | [] |
| Symptoms of drug induced psychosis | [] |
| Symptoms of drug overdose | [] |
| Active Resistance (non-assaultive physical action to resist; e.g., pulling away; "resistor") | [] |
| Assaultive (attempts to apply or applies force to any person; kicking, punching, threatening acts or gestures, aggressive body language, "pre-assault cues"; "assailant") | [] |
| Violence/threatened violence to staff | [] |
| Violence/threatened violence to self | [] |
| Violence/threatened violence to others | [] |
| Grievous bodily harm or death (actions intended to or likely to cause GBH or death; assault with weapon, actions that would result in serious injury to any person; actions warrant use of deadly force) | [] |
| Staff member assaulted | [] |
| Escape/attempt escape | [] |

APPENDIX H

WEAPONS

Armed subject 1=yes ☐

Type of weapon: (code 1 if present)

Firearm ☐

Edged (knife, glass, scissors) ☐

Blunt force (bat, hockey stick, pipe, hammer) ☐

Pointed (needle, fork, pickaxe) ☐

NATURE OF CEW DEPLOYMENT

Warning/Challenge issued 1=yes 2=no ☐

Number of warnings

Display only/compliance (presence, display, "spark", laser sight) 1=yes 2=no ☐

Number of display only presentations

Display only order (in relation to CEW use, 1st, 2nd, 3rd)

Display only – Effective? 1=yes 2=no 3=ultimately 4=temporarily ☐

Stun Deployment (drive stun, push stun, contact stun) 1=yes 2=no ☐

Number of stun deployments

Stun deployment order (in relation to CEW use, 1st, 2nd, 3rd, etc.)

Location on subject's body (specify; if multiple deployment list in order)

Stun – Effective? 1=yes 2=no 3=ultimately 4=temporarily ☐

Probe Deployment 1=yes 2=no ☐

Number of probe deployments/cycles

Probe deployment order (in relation to CEW use, 1st, 2nd, 3rd)

Probe deployment distance (in feet, if multiple deployments list in order)

1st

2nd

3rd

Probe deployment duration (in seconds; if multiple deployments list in order)

1st

2nd

3rd

Location on subject's body (specify; if multiple deployment list in order)

Subject in vulnerable position (e.g., roof, tree, open window) 1=yes 2=no ☐

Probe – Effective? 1=yes 2=no 3=ultimately 4=temporarily ☐

If ineffective, why? 1=miss 2=technical problem 3=poor conduction

If probe darts embedded in skin, who removed them?

1=staff 2=health care staff 3=hospital physician 4=u/k 5=N/A 6=subject

If CEW was used in any mode, what model of CEW was used?

1=Taser M26 2=TaserX26 3=Unknown

Was CEW used in stun or probe mode against bare skin?

1=yes ☐

USE OF OTHER FORCE OPTIONS

Verbal intervention: (dialogue)	before CEW use	1=yes	<input type="checkbox"/>
	during CEW use	1=yes	<input type="checkbox"/>
	after CEW use	1=yes	<input type="checkbox"/>

“Soft” physical control: (arm & wrist locks, hands on force to pressure points)	before CEW use	1=yes	<input type="checkbox"/>
	during CEW use	1=yes	<input type="checkbox"/>
	after CEW use	1=yes	<input type="checkbox"/>

“Hard” physical control: (open & empty hand strikes, punches, kicks to target areas)	before CEW use	1=yes	<input type="checkbox"/>
	during CEW use	1=yes	<input type="checkbox"/>
	after CEW use	1=yes	<input type="checkbox"/>

OC/Pepper spray warning: (presence, display)	before CEW use	1=yes	<input type="checkbox"/>
	during CEW use	1=yes	<input type="checkbox"/>
	after CEW use	1=yes	<input type="checkbox"/>

OC/Pepper spray use:	before CEW use	1=yes	<input type="checkbox"/>
	during CEW use	1=yes	<input type="checkbox"/>
	after CEW use	1=yes	<input type="checkbox"/>

Baton use: (ASP)	before CEW use	1=yes	<input type="checkbox"/>
	during CEW use	1=yes	<input type="checkbox"/>
	after CEW use	1=yes	<input type="checkbox"/>

ARWEN gun use: (flexible baton)	before CEW use	1=yes	<input type="checkbox"/>
	during CEW use	1=yes	<input type="checkbox"/>
	after CEW use	1=yes	<input type="checkbox"/>

Restraints: (handcuffs, zip straps, hobble, hogtie)	before CEW use	1=yes	<input type="checkbox"/>
	during CEW use	1=yes	<input type="checkbox"/>
	after CEW use	1=yes	<input type="checkbox"/>
Highest level of restraint applied (specify)		<input type="text"/>	

INJURIES

Injuries to staff	1=yes	2=no	3=unknown	<input type="checkbox"/>
If yes, note severity	1=minor	2=serious	3=unknown	<input type="checkbox"/>
If yes, specify nature of injury	<input type="text"/>			

Injuries to subject (related to CEW use)	1=yes	2=no	3=unknown	<input type="checkbox"/>
If yes, note severity	1=minor	2=serious	3=unknown	<input type="checkbox"/>
If yes, specify nature of injury	<input type="text"/>			

APPENDIX H

Injuries to subject (unrelated to CEW use) 1=yes 2=no 3=unknown ☐
If yes, note severity 1=minor 2=serious 3=unknown ☐
If yes, note: 1=injuries present prior to staff arrival
2=injuries self-inflicted during incident
3=injuries sustained during intervention
4=unknown when injuries sustained
(before or during intervention) ☐

Subject examined by paramedics (PAS) on scene 1=yes 2=no 3=refused ☐
Subject examined by medical staff on scene 1=yes ☐
Subject transported to hospital 1=yes ☐

POLICY CONSIDERATIONS (Reference use-of-force policy to complete this section)

(code 3=unknown 4=Not applicable 5=No policy 6=Borderline/discretion)

Was the CEW deployed in accordance with use-of-force policy? (i.e., subject actions warranted use of CEW) 1=yes 2=no ☐
If not, explain:

Were policy prescribed steps taken before deployment of the CEW? (eg., was a warning/challenge issued?) 1=yes 2=no ☐
If not, explain:

Were policy prescribed steps taken while discharging the CEW? (eg., was the CEW aimed at an allowable part of the subject's body?) 1=yes 2=no ☐
If not, explain:

Was the CEW deployed (stun or probe) in the presence of flammable vapors or liquids? 1=yes 2=no ☐

Was policy relating to multiple CEW deployments followed? 1=yes 2=no ☐
If not, explain:


Was policy relating to duration of CEW deployment followed? 1=yes 2=no ☐
If not, explain:

Were policy prescribed steps to be taken after deployment of the CEW followed? (eg., removal of probes, attendance of PAS, prevention of positional asphyxia) 1=yes 2=no ☐
If not, explain:

Was photographic evidence collected at the scene? 1=yes 2=no ☐

Note any other comments or observations below or on the reverse of this page.

Use of Conducted Energy Weapons by Provincial Corrections in British Columbia, 2003–2007



This review of 149 reported incidents of conducted energy weapon (CEW) usage by provincial correctional staff (Adult Custody Division) in British Columbia includes descriptions of subject characteristics and behaviours, incident type and location, mode of CEW deployment, use of other force options, inmate and staff injuries, and policy compliance.

Prepared for the Thomas R. Braidwood, Q.C., Commissions of Inquiry

by Karen A. Ryan

November 5, 2008

Table of Contents

LIST OF TABLES.....	525
INTRODUCTION.....	526
METHODOLOGY	526
CONTEXT	527
RESULTS	528
Subject Characteristics.....	528
Incident Characteristics.....	529
Subject Behaviours/Actions.....	529
Weapons	530
Nature of CEW Deployment.....	531
Use of the CEW in Display Mode	531
Use of the CEW in Stun Mode	532
Use of the CEW in Probe Mode.....	532
Use of the CEW in Stun and Probe Modes	533
Subject Behaviour and the Use of Conducted Energy Weapons.....	533
Use of Other Force Options	534
Injuries and Medical Attention	535
Policy Compliance	536
Conclusions.....	537
APPENDIX 1: CEW INCIDENT FILE REVIEW (CORRECTIONS – ADULT CUSTODY)	
CODING FORM.....	538

LIST OF TABLES

<i>Table 1: Number of Staff and Number of CEWs by Year.....</i>	<i>527</i>
<i>Table 2: Average Daily Inmate Count by Selected Correctional Facility by Year</i>	<i>527</i>
<i>Table 3: Number of CEW Incidents by Year</i>	<i>528</i>
<i>Table 4: Number of Incidents by Correctional Facility.....</i>	<i>529</i>
<i>Table 5: Subject Behaviours/Actions</i>	<i>530</i>
<i>Table 6: Method of CEW Use by Highest Level of Subject Resistance.....</i>	<i>534</i>
<i>Table 7: Use of Other Intervention Methods or Use-of-Force Options in Conjunction with CEW Use.....</i>	<i>535</i>

INTRODUCTION

Phase One (the “Study Commission”) of the Braidwood, Q.C., Commissions of Inquiry was mandated to “inquire into and report on the use of conducted energy weapons” by “authorized persons under the *Correction Act*.” In partial fulfillment of this mandate the Commission undertook a review of all CEW incidents involving BC Corrections Branch staff (Adult Custody Division³⁰⁷).

METHODOLOGY

In May 2008 a request was made to the Corrections Branch of the Ministry of Public Safety and Solicitor General, asking for “CEW incident reports,” including any video records of CEW incidents, involving correctional staff dating from April 2003 to the end of 2007.

In order to facilitate and expedite access to documents and videos, Sharon Samuels, Research Counsel, negotiated and signed a confidentiality agreement with the Ministry of Public Safety and Solicitor General (and approved by the Freedom of Information and Protection of Privacy Office) that ensured that the privacy of individuals involved in CEW incidents (both staff and inmates) would be safeguarded by the Commission.

A coding form (see Appendix 1) was developed to capture information about subject characteristics and behaviours, incident type and location, mode of CEW deployment, use of other force options, inmate and staff injuries, and policy compliance.

For the purposes of this research the unit of analysis was defined as “the discharge of a CEW on an individual during a single event.” If the CEW was used in stun or probe mode on more than one inmate during a single event, a “CEW Incident File Review Coding Form” was completed for each subject and would be counted as multiple instances of CEW use. If the CEW was used as a display only/compliance tool on multiple inmates, a single coding form was completed for the incident.

Commission researchers met with senior Corrections Branch (Adult Custody Division, Policy and Programs) staff in early August 2008 to review incident reports and view video records of CEW incidents. As per the above noted confidentiality agreement, all data collection took place in Ministry of the Attorney General offices. In total, 19 video records of CEW incidents were reviewed including seven involving the discharge (in stun or probe mode) of the CEW.³⁰⁸ The characteristics of six incidents were collected from video recordings alone, as the written incident report could not be located by Corrections Branch staff. Data collection was completed in September 2008.³⁰⁹

The period covered by this review is from April 1, 2003 (when correctional staff were first equipped with CEWs) through to the end of 2007.

307 The Adult Custody Division is responsible for the custody of persons remanded for trial, persons sentenced to imprisonment for the commission of crimes, and persons detained by immigration authorities. As provincial correctional facilities, inmates are generally serving sentences of less than two years; however, federal prisoners (sentenced to two years or more) may spend up to 15 days in a provincial facility before transfer to a federal penitentiary.

308 Researchers asked to view video records of all incidents involving the discharge of the CEW; however, of 27 applicable incidents, 14 video records could not be produced or did not work properly and six incidents were apparently not recorded.

309 Significant research assistance was provided by Jennifer B. Morgan, who completed the file coding and provided general research support.

CONTEXT

The following information provides background for the use of CEWs by provincial corrections staff. From 2003 to 2007 the number of CEW units available to correctional staff has remained stable at 22, while the number of correctional staff has declined from 1,381 to 1,257. From April 2003 to February 2008, the average daily inmate count in BC's correctional facilities has risen 28 per cent, from 2,048 to 2,630.³¹⁰

Table 1: Number of Staff and Number of CEWs by Year

Year	Number of Staff	Number of CEWs
2003	1381	22
2004	1266	22
2005	1272	22
2006	1217	22
2007	1257	22

Note: Staff counts include all correctional staff in all provincial correctional centres, including correctional officers, correctional supervisors and excluded managers.

Table 2 below provides information about inmate populations in correctional facilities where CEWs were used between 2003 and 2007.

Table 2: Average Daily Inmate Count by Selected Correctional Facility by Year

Facility	2003	2004	2005	2006	2007
Fraser Regional Correctional Centre	344.8	405.8	432.3	466.0	472.7
Kamloops Regional Correctional Centre	214.2	220.7	241.3	260.6	275.6
North Fraser Pretrial Centre	456.3	500.5	534.6	588.3	611.9
Prince George Regional Correctional Centre	185.2	204.9	233.5	246.9	258.8
Surrey Pretrial Services Centre	188.7	195.6	199.0	211.4	327.6
Vancouver Island Regional Correctional Centre	233.0	273.3	286.3	299.0	321.9
Vancouver Jail (222 Main Street)	46.2	51.2	54.6	7.0	0

Note: Inmate counts provided by Policy and Programs, Adult Custody Division, Corrections Branch.

310 Ministry of Public Safety and Solicitor General, "Submissions of Corrections Branch, Adult Custody Division" (May 6, 2008). Written submission to the Braidwood Inquiry [unpublished] at p. 2.

RESULTS

CEWs were used by corrections staff a total of 149 times from April 1, 2003, through the end of 2007. Forty per cent of these incidents occurred in 2007. The above noted decrease in staff levels while inmate counts have increased, “resulting in significant overcrowding and resulting tension,”³¹¹ may explain the concentration of incidents in 2007.

Table 3: Number of CEW Incidents by Year

Year	Number of CEW Incidents	Percentage of Total
2003	17	11.4
2004	31	20.8
2005	23	15.4
2006	18	12.1
2007	60	40.3
Total	149	100.0

The video evidence reviewed indicates that correctional officers are well prepared for encounters with inmates that may require use of a CEW (including a tactical plan and protection of staff through use of equipment such as body armour and helmets). In addition, video evidence supported the written description of events provided by incident reports.

Subject Characteristics

Nearly all of the 149 reported incidents involved male inmates (98%). Three incidents (2%) involved female inmates.

The inmate’s age at the time of the CEW incident was rarely recorded in the CEW incident report. In 141 cases the subject’s age was unknown. In relation to the eight cases where age was known, the average age was 30.1 years, with a minimum age of 19, a maximum age of 57, and a median age of 23.

The race or ethnicity of the inmates involved in CEW incidents was noted (or visible in video records of the incident) in only 31 cases (20.8%). With reference to these few cases, more than three-quarters (77.4%) involved Caucasian subjects, two (6.5%) involved Aboriginal inmates,³¹² and five (16.1%) involved black inmates.

A history of mental illness was noted for 27 (18.1%) inmates.

Just over one-quarter (26.2%) of incident reports noted an inmate history of violence.

³¹¹ *Ibid.*

³¹² In 2005/2006, Aboriginal people accounted for 20 per cent of adult admissions to sentenced custody and 19 per cent of remand admissions in BC. Source: Statistics Canada, Catalogue #85-002, Vol. 28, no. 6.

Incident Characteristics

Table 4 lists the number of CEW incidents by the correctional facility where they occurred.

Table 4: Number of Incidents by Correctional Facility

Facility	Number of CEW Incidents	Percentage
Fraser Regional Correctional Centre	20	13.4
Kamloops Regional Correctional Centre	14	9.4
North Fraser Pretrial Centre	37	24.8
Prince George Regional Correctional Centre	10	6.7
Surrey Pretrial Services Centre	28	18.8
Vancouver Island Regional Correctional Centre	37	24.8
Vancouver Jail (222 Main Street)	2	1.3
Total	149	100.0

The most frequent (71 cases, or 47.7%) type of event or circumstance in which the CEW was used was to assist with removal of an inmate from a cell (cell extraction). Cell entry was the next most common type of event (25 cases, or 16.8%), followed by lock up (16 cases, or 10.7%), cell extraction and escort (14 cases, or 9.4%), escort (11 cases, or 7.4%), intake (nine cases, or 6%), and hostage-taking situation (two cases, or 1.3%).

The vast majority of CEW use incidents occurred, at least initially, in a cell (123 cases, or 82.6%). Twelve incidents (8.1%) occurred in indoor common areas, six (4%) occurred in the intake processing or admissions area, and four (2.7%) occurred in the portico or loading/unloading area. One incident (0.7%) occurred in each of the following areas: health care unit, outdoor courtyard, conference room, and video court booth.

Subject Behaviours/Actions

Incident descriptions, narratives, and synopses of events recorded in the reports completed by correctional staff were used to extract the characteristics of subject behaviours or actions as observed by staff members on the scene of the CEW use incident. Levels of resistance as outlined in the National Use of Force Framework were supplemented with other descriptors of subject behaviour as noted in the reports. Table 5 below lists the frequency that these behaviours or actions were observed and noted by correctional staff. Subject behaviours in the context of method of CEW use is presented in detail in a later section of this report.

Table 5: Subject Behaviours/Actions

Subject Behaviours/Actions	Frequency (N=149)	Percentage
Cooperative/compliant to directions	34	22.8
Passive resistance ³¹³	1	0.7
Agitated	29	19.5
Pacing	1	0.7
Yelling	17	11.4
Disturbance	13	8.7
Smashing/damaging property	56	37.6
Verbally abusive/verbal threats/verbal aggression	52	34.9
Alcohol/drug intoxication	12	8.1
Symptoms of “excited delirium”	1	0.7
Active resistance ³¹⁴	63	42.3
Assaultive ³¹⁵	49	32.9
Violence/threatened violence to staff	42	28.2
Violence/threatened violence to self	36	24.2
Violence/threatened violence to others	12	8.1
Inmate fight	1	0.7
Grievous bodily harm or death ³¹⁶	0	0.0
Staff member assaulted	7	4.7

Note: Each incident may contain multiple (not mutually exclusive) descriptors of subject behaviour/actions (including levels of resistance).

Weapons

One in five CEW use incidents (30 of 149 cases, or 20.1%) involved an inmate armed with some type of weapon.

Sixteen (53.3%) of the 30 armed subjects were in possession of an edged weapon. Nine subjects (12%) were in possession of a pointed weapon. A blunt weapon (or something that

313 Passive resistance is defined as refusal, with little or no physical action, to cooperate; refusal to show hands.

314 Active resistance is defined as non-assaultive physical action to resist; e.g., pulling away.

315 Assaultive is defined as attempts to apply or application of force to any person; kicking, punching, threatening acts or gestures, aggressive body language, “pre-assault cues.”

316 Grievous bodily harm or death is defined as actions intended to or likely to cause grievous bodily harm or death; assault with weapon; actions that would result in serious injury to any person; actions that warrant use of deadly force.

could be used as a blunt weapon) was in the possession of six (20%) subjects. Included in these totals is one inmate who was armed with both an edged and a pointed weapon.

Nature of CEW Deployment

In 108 (72.5%) of the 149 CEW incidents the inmate was warned that a CEW might be used if he or she failed to comply with staff direction. In almost one-third (32.4%) of these cases, the inmate was warned more than once. The warning was sufficient to gain compliance and no further use of the CEW was needed in one case. In 82 of the 108 cases (75.9%) the warning was followed or used in conjunction with a display of the CEW in an attempt to gain compliance, with no further use of the CEW.

In relation to the remaining 25 of 108 cases where the inmate was warned that the CEW might be used:

- The CEW was displayed and then used in probe mode in 16 cases (64%).
- The CEW was displayed and then used in stun mode in six cases (24%).
- The CEW was displayed and then used in both stun and probe modes in two cases (8%).
- The CEW was used in probe mode (without display) following the warning in one case (4%).

In total, display mode usage of the CEW occurred in 146 of the 149 cases (98%). The CEW was used in display mode only (with no stun or probe mode usage) in over three-quarters of the 149 incidents (121 cases, or 81.2%).

In total, use of the CEW in stun mode occurred in nine of the 149 cases (6%). The CEW was never used in stun mode only (with no display or probe mode usage).

In total, the CEW was used in probe mode in 21 of the 149 cases (14.1%). In two cases, only probe mode was used (with no display or stun mode usage).

The deployment of the CEW in both stun and probe mode (following display of the weapon) occurred in three incidents (2%).

In nearly two-thirds of the 149 incidents (94 cases, or 63.1%) the TASER X26 was used. The TASER M26 was used in the remaining 55 (36.9%) cases.

The following four sections will review the more detailed results relating to display mode, stun mode, probe mode, and combined stun and probe mode usage.

Use of the CEW in Display Mode

As previously reported, display of the CEW in the attempt to gain subject compliance was present in 146, or 98 per cent, of the 149 CEW incidents. This type of use of the CEW includes simple display of the weapon, “sparking” of the weapon, and targeting of the laser sight on the subject. This method was often used (72.6%) in conjunction with one or more verbal warnings.

APPENDIX I

In most cases (130 cases, or 89%) one attempt to gain the subject's compliance through the display of the CEW occurred. In 15 cases (10.3%) two attempts were made to gain compliance via this method, and in a single case (0.7%) three attempts were made.

In over three-quarters of incidents (113 of 146, or 77.4%) in which display compliance was attempted, the method was effective in gaining the subject's compliance. This method was ineffective in 28 (19.2%) cases and only temporarily effective in five (3.4%) cases.

Where display compliance was ineffective, the CEW was subsequently used in probe mode in 16 cases (57.1%), stun mode in five cases (17.9%), and both stun and probe modes in three cases (10.7%). In four cases (14.3%) no other use of the CEW was reported, despite the failure of display usage to gain compliance from the inmate.

Of those cases where display compliance was only temporarily effective, stun mode was subsequently used in one case (20%). No other CEW use was recorded in four cases (80%).

Use of the CEW in Stun Mode

As previously reported, use of the CEW in stun mode occurred in nine of the 149 cases (6%).

In all cases, use of stun mode was preceded by an attempt to gain compliance through display of the weapon. In three cases (33.3%) use of the CEW in probe mode also preceded the stun mode deployment of the CEW.

In over one-half of the nine incidents (five cases, or 55.6%) in which the CEW was used in stun mode, the subject was exposed to one stun deployment. In two cases (22.2%) the inmate was exposed to three stun deployments, four stun deployments were used in one incident (11.1%), and six deployments were used in one case (11.1%). In total, where stun mode was used, 44.4 per cent of subjects were exposed to multiple stun deployments.

Among the five single-stun deployment cases, the location on the subject's body targeted by the stun deployment was the back in two cases, the buttocks in one case, the thigh in one case, and unknown in one case. Among the multiple-stun deployment cases, the abdomen, thigh, calf, buttock, chest, and shoulder were targeted.

In one case the stun deployment was applied to the subject's bare skin.

Use of the CEW in stun mode was effective (or ultimately effective in the case of multiple stuns) in controlling the subject in seven incidents (77.8%). The method was ineffective in one incident (11.1%) and only temporarily effective in one incident (11.1%). In both cases where stun mode was ineffective or only temporarily effective, the CEW had previously been used in both display mode and probe mode, and no further use of the CEW was recorded following its use in stun mode.

Use of the CEW in Probe Mode

As previously reported, the CEW was used in probe mode in 21 of the 149 cases (14.1%).

In most probe mode incidents (19, or 90.5%) deployment followed display of the weapon.³¹⁷ The CEW was used in probe mode without a prior attempt to gain compliance through either display of the weapon or a verbal warning in only one case. In the remaining case, probe mode was used directly following a verbal warning.

317 In 18 of these incidents the subject was also given a verbal warning.

Most probe mode incidents (13 of 21, or 61.9%) involved a single probe deployment cycle. Six subjects (28.6%) were exposed to two probe cycles and two subjects (9.5%) were exposed to three cycles.

Information about the distance the correctional staff member was from the subject when the CEW probes were fired was often missing from the incident report (16 cases, or 76.2%). The deployment distance was between four and seven feet in the five cases where this information had been recorded.

The duration of the probe cycles was recorded in most cases (17, or 81%). In all of these cases the duration of the probe cycles was listed as five seconds (the default duration) or less.

In nearly one-quarter of probe-use incidents (five cases, or 23.8%) the location on the subject's body hit by the probe darts was not recorded in the incident report. Among the 16 cases where the body location was known, the most common locations were the subject's chest (28.6%), followed by the back (9.5%), torso (9.5%), and chest and abdomen (9.5%).

In six cases (28.6%) the probe darts hit the subject's bare skin.

Use of the CEW in probe mode was effective (or ultimately effective in the case of multiple probe cycles) in controlling the subject in 16 incidents (76.2%). The method was ineffective in four incidents (19%) and only temporarily effective in one incident (4.8%). In relation to the four cases where the probe deployment was ineffective, the method failed due to poor electrical conduction in three cases and probe darts that missed the target in one case.

One or both probe darts were embedded in the subject's skin in 16 cases. In these cases the dart(s) was/were removed by health care staff in six cases (37.5%), correctional staff in four cases (25%), and the subject in two cases (12.5%). Information about dart removal was missing in four incidents (25%).

Use of the CEW in Stun and Probe Modes

In three of the 149 (2%) CEW use incidents, the CEW was deployed in both stun and probe modes (always following an attempt to gain compliance through display of the weapon). In one of these cases, a single probe cycle was followed by a single stun-mode deployment. In the second case, two probe cycles were followed by a single stun-mode application. In the third case, two probe cycles were followed by six applications of the CEW in stun mode.

Subject Behaviour and the Use of Conducted Energy Weapons

Thus far, the review of CEW use by correctional staff has presented the characteristics of subject behaviour and the nature of CEW use in isolation from each other. However, the justification for the use and method of use of the CEW is dependent upon the behaviour of the subject. This section will summarize how the CEW has been used by correctional staff when dealing with inmates who displayed various levels of resistance to staff efforts to control them.

Table 6 presents the methods of CEW use in the context of the highest level of subject resistance faced by correctional staff. Subject resistance is categorized according to the National Use of Force Framework, which describes subject behaviour as cooperative, passive resistance, active resistance, assaultive, and posing a threat of grievous bodily harm or death to anyone. As can be seen from this analysis, the CEW was not deployed in stun or probe mode when the inmate was displaying anything less than active resistance. Most stun and/or probe deployment incidents (20 of 26, or 76.96%) have involved inmates displaying

APPENDIX I

assaultive resistance but in no case was the inmate posing an immediate threat of gross bodily harm or death.

Table 6: Method of CEW Use by Highest Level of Subject Resistance

Highest Level of Resistance	Cooperative	Passive	Active	Assaultive	GBH/Death	Other	Total
CEW Use							
Warning Only	1	0	0	0	0	0	1
Display Only Deployment	31	1	32	29	0	28	121
Display & Stun	0	0	2	4	0	0	6
Display & Probe	0	0	3	12	0	1	16
Stun Only	0	0	0	0	0	0	0
Probe Only	0	0	0	2	0	0	2
Stun & Probe	0	0	0	0	0	0	0
Display & Stun & Probe	0	0	1	2	0	0	3
Total	32	1	38	49	0	29	149

Note: The “other” category includes all cases where the subject’s behaviour did not involve any of the National Use of Force Framework resistance categories but may involve destruction of property, possession of a weapon, or verbal threats of violence to staff, self, or others.

Use of Other Force Options

In addition to the CEW, correctional staff also recorded the use of other intervention methods or force options to control inmates. Table 7 below lists the frequency with which these methods were used before, during, or after use of the CEW.

Table 7: Use of Other Intervention Methods or Use-of-Force Options in Conjunction with CEW Use

Intervention Method	Before CEW Use		During CEW Use		After CEW Use	
	Total (N=149)	%	Total (N=149)	%	Total (N=149)	%
Verbal Intervention	147	98.7	3	2.0	1	0.7
“Soft” Physical Control	13	8.7	8	5.4	29	19.5
“Hard” Physical Control	2	1.3	0	0.0	6	4.0
OC/Pepper Spray Use	3	2.0	0	0.0	1	0.7
Baton Use	1	0.7	0	0.0	1	0.7
Restraints	1	0.7	3	2.0	134	89.9

Note: “Soft” physical control includes arm and wrist locks, hands-on force to pressure points, and taking the subject to the ground. “Hard” physical control includes open and empty hand strikes, punches, and kicks to target areas.

In the single case where the subject was restrained prior to the use of the CEW, the CEW was displayed only.

In most CEW incidents (89.9%) the subject was restrained following the use of the CEW.³¹⁸ Most commonly (85 of 134 cases, or 63.4%) the inmate was handcuffed only. In 29 cases (21.6%) the inmate was both handcuffed and put in leg irons. Another seven inmates (5.2%) were handcuffed, put in leg irons, and also restrained by another form of restraint (such as a body cuff or wrap, a belly chain, or a restraint board). In three cases (2.2%) handcuffs were combined with another form of restraint other than leg irons (such as a body cuff, a belly chain, or four-point restraints). The inmate was restrained by a body cuff or wrap alone in four cases (3%). Two inmates (1.5%) were restrained on a Provincial Ambulance Service stretcher. In four cases (3%) the type of restraint used was not recorded.

Injuries and Medical Attention

In seven of the 149 CEW incidents (4.7%) one or more correctional officers suffered some type of injury. Five of these injuries were described as minor in nature (including cuts, bruises, and bite wounds). In two cases the nature of the injury was not recorded.

Inmates sustained some form of injury in 48 of the 149 incidents (32.2%). Seven injured inmates (14.6%) sustained injuries both related to the use of the CEW and unrelated to CEW use.

In total, 18 (12.1%) inmates suffered a CEW-related injury. All of these injuries were described as minor in nature and involved the penetration of probe darts into the skin or welts from the application of the CEW in stun mode.

In total, inmates suffered a non-CEW-related injury in 37 of the 149 CEW incidents (24.8%). The majority of these injuries (20 of 37, or 54.1%) were present prior to intervention by

³¹⁸ An example of when the inmate might not be restrained following use of the CEW is when the inmate is already in a cell.

APPENDIX I

correctional staff due to involvement in a fight, assault, or self-harm. In 10 cases (27%) the injuries were self-inflicted by the inmate during the incident. Six inmates (16.2%) were injured during the intervention by correctional staff. In one case it was unclear from the incident report when the injury occurred (that is, before or during intervention). For the most part (91.9%), non-CEW-related injuries were relatively minor in nature. Of the three more serious injuries, two were present prior to intervention by correctional staff and one was self-inflicted by the inmate during the incident.

Inmates were checked by medical staff on the scene following 54 incidents (36.2%) – including 17 of the 21 (81%) probe deployment incidents. Eighteen inmates (12.1%) were taken to the facility's medical unit for medical attention. In seven cases the inmate was transported to hospital – five of these inmates had sustained injuries prior to intervention by correctional staff.

Policy Compliance

Any use of CEWs in correctional facilities in BC, including presence, display, stun, or probe deployment, requires authorization from the warden, or from designated deputy wardens or assistant deputy wardens to whom the warden has delegated the authority. When not authorized for use to assist with a specific situation, CEWs are stored in a locked room.

CEWs may be authorized for use in the following circumstances:

- 1) tactical operations;
- 2) cell entry or extraction;
- 3) in response to an escape or escape attempt;
- 4) external prowling (secure outdoor yard); and
- 5) as approved by the warden when intervention is required to prevent self-harm, compel compliance, terminate violent and destructive behaviour, protect the safety of staff and inmates, or when lesser use of force is inappropriate or unreasonable.³¹⁹

With one exception, all CEW use incidents reviewed for this project complied with the above policy. In one case, however, it appears that proper authorization for CEW use was not obtained prior to the incident.

Corrections Branch policy also requires that a "Use of Force Report" be completed each time an officer obtains authorization for use of a CEW. This report is to be accompanied by a video recording (when available) of the event, and both the report and the video are to be submitted to the provincial director of the Adult Custody Division for review. As previously noted, both a use-of-force report and a video were not available for every incident included in this review. In a small number of cases, a videotape could be located but not a use-of-force report. Incidents were not recorded on video in every instance.

Overall, compliance with Corrections Branch CEW use policy was high. The requirement that authorization be obtained prior to issuance of a CEW ensures the decision to employ this use-

319 Ministry of Public Safety and Solicitor General, "Submissions of Corrections Branch, Adult Custody Division" (May 6, 2008). Written submission to the Braidwood Inquiry [unpublished].

of-force option is subject to senior staff oversight. The reporting requirements, including video evidence, also support monitoring and accountability with respect to CEW use.

Conclusions

This review of CEW use in adult provincial correctional facilities in BC found that CEWs are used relatively rarely. In just under a five-year period it was authorized for use 149 times and in the vast majority of these cases (81.6%) the weapon was displayed to gain or maintain an inmate's cooperation and compliance without any stun or probe mode usage.

A fairly restrictive policy for use of the CEW, and high compliance with policy, is likely to keep usage rates low.

APPENDIX 1: CEW INCIDENT FILE REVIEW (CORRECTIONS – ADULT CUSTODY) CODING FORM

Note: the unit of analysis is the discharge of a CEW on an individual during a single event – if the CEW is used (in stun or probe mode) on two subjects during one event, it will be counted as two incidents and should be assigned two case numbers and recorded on two coding forms. If the CEW is used as a display only/compliance tool on multiple inmates, complete a single coding form for the incident.

Case Number [_ _ _ _]

Date of Incident (code Year, Month, Day) [_ _ _ _ _]

Lighting 1=good 2=poor [_]

SUBJECT CHARACTERISTICS

Age (in years) [_ _]

Gender 1=male 2=female 3=unknown [_]

Physical Size 1=small 2=medium 3=large [_]

Race/Ethnicity (specify) [_____]

1=Caucasian 2=Aboriginal 3=Asian 4=South Asian 5=Black 6=Other 7=Middle Eastern 8=Hispanic

History of mental illness (known to staff prior to incident) 1=yes [_]

History of violence (known to staff prior to incident) 1=yes [_]

Preexisting medical conditions (e.g., pregnancy, heart disease, epilepsy, diabetes) 1=yes 2=no [_]

If yes, specify [_____]

INSTITUTION

1. North Fraser Pre-Trial Centre
2. Vancouver Island Regional Corrections Centre (RCC)
3. Fraser RCC
4. Surrey Pre-Trial Services
5. Prince George RCC
6. Kamloops RCC
7. Burnaby Corrections Centre for Women
8. Vancouver PD Jail [_]

TYPE OF EVENT

- | | | |
|--------------------|----------------------------|--------------------|
| 1. Cell entry | 6. External prowl | |
| 2. Cell extraction | 7. Escape | |
| 3. Lock up | 8. Other (specify) [_____] | |
| 4. Intake | 9. Hostage taking | |
| 5. Escort | | Event Type #1 [__] |
| | | Event Type #2 [__] |

LOCATION OF INCIDENT

1. Cell
2. Common areas
3. Health care unit
4. Portico/loading area
5. Fitness area
6. Outdoor courtyard
7. Eating area
8. Records/Intake processing/Admissions area
9. Conference/Meeting room
10. Video court booth

[__]

SUBJECT BEHAVIOURS/ACTIONS (As observed by staff members on scene)

(code 1 if present during incident)

- | | |
|--|------|
| Cooperative/compliant to directions | [__] |
| Passive Resistance (refusal with little or no physical action, to cooperate; refusal to show hands) | [__] |
| Agitated | [__] |
| Pacing | [__] |
| Yelling | [__] |
| Disturbance | [__] |
| Smashing/damaging property | [__] |
| Verbally abusive/verbal threats/verbal aggression | [__] |
| Alcohol/Drug intoxication | [__] |
| Symptoms of "excited delirium" | [__] |
| Symptoms of drug induced psychosis | [__] |
| Symptoms of drug overdose | [__] |
| Symptoms of mental health crisis | [__] |
| Active Resistance (non-assaultive physical action to resist; e.g., pulling away) | [__] |
| Assaultive (attempts to apply or applies force to any person; kicking, punching, threatening acts or gestures, aggressive body language, "pre-assault cues") | [__] |
| Violence/threatened violence to staff | [__] |
| Violence/threatened violence to self | [__] |
| Violence/threatened violence to others | [__] |
| Inmate fight | [__] |
| Grievous bodily harm or death (actions intended to or likely to cause GBH or death; assault with weapon, actions that would result in serious injury to any person; actions warrant use of deadly force) | [__] |
| Staff member assaulted | [__] |

WEAPONS

- | | | |
|---------------|-------|------|
| Armed subject | 1=yes | [__] |
|---------------|-------|------|

APPENDIX I

Type of weapon: (code 1 if present)

Firearm	<input type="checkbox"/>
Edged (knife, glass, scissors)	<input type="checkbox"/>
Blunt force (bat, hockey stick, pipe, hammer)	<input type="checkbox"/>
Pointed (needle, fork, pickaxe, pencil)	<input type="checkbox"/>

NATURE OF CEW DEPLOYMENT

Warning/Challenge issued	1=yes	2=no	<input type="checkbox"/>
Number of warnings	<input type="text"/>		
Warning – Effective?	1=yes	2=no	3=ultimately 4=temporarily <input type="checkbox"/>

Display only/compliance (presence, display, “spark”, laser sight)	1=yes	2=no	<input type="checkbox"/>
Number of display only presentations	<input type="text"/>		
Display only order (in relation to CEW use, 1 st , 2 nd , 3 rd)	<input type="text"/>		
Display only – Effective?	1=yes	2=no	3=ultimately 4=temporarily <input type="checkbox"/>

Stun Deployment (drive stun, push stun, contact stun)	1=yes	2=no	<input type="checkbox"/>
Number of stun deployments	<input type="text"/>		
Stun deployment order (in relation to CEW use, 1 st , 2 nd , 3 rd , etc.)	<input type="text"/>		
Location on subject’s body (specify; if multiple deployment list in order)	<input type="text"/>		
	<input type="text"/>		
	<input type="text"/>		
Stun – Effective?	1=yes	2=no	3=ultimately 4=temporarily <input type="checkbox"/>

Probe Deployment	1=yes	2=no	<input type="checkbox"/>
Number of probe deployments/cycles	<input type="text"/>		
Probe deployment order (in relation to CEW use, 1 st , 2 nd , 3 rd)	<input type="text"/>		
Probe deployment distance (in feet, if multiple deployments list in order)	1 st	<input type="text"/>	
	2 nd	<input type="text"/>	
	3 rd	<input type="text"/>	
Probe deployment duration (in seconds; if multiple deployments list in order)	1 st	<input type="text"/>	
	2 nd	<input type="text"/>	
	3 rd	<input type="text"/>	
Location on subject’s body (specify; if multiple deployment list in order)	<input type="text"/>		
	<input type="text"/>		
	<input type="text"/>		
Subject in vulnerable position (e.g., roof, tree, open window)	1=yes	2=no	<input type="checkbox"/>
Probe – Effective?	1=yes	2=no	3=ultimately 4=temporarily <input type="checkbox"/>
If ineffective, why?	1=miss	2=technical problem	3=poor conduction <input type="checkbox"/>
If probe darts embedded in skin, who removed them?			
	1=staff	2=health care staff	3=hospital physician 4=u/k 5=N/A 6=subject <input type="checkbox"/>

If CEW was used in any mode, what model of CEW was used?

1=Taser M26	2=TaserX26	3=Unknown	<input type="checkbox"/>
-------------	------------	-----------	--------------------------

Was CEW used in stun or probe mode against bare skin?

1=yes ☐

USE OF OTHER FORCE OPTIONS

Verbal intervention: (dialogue)	before CEW use	1=yes	<input type="checkbox"/>
	during CEW use	1=yes	<input type="checkbox"/>
	after CEW use	1=yes	<input type="checkbox"/>

“Soft” physical control: (arm & wrist locks, hands on force to pressure points)	before CEW use	1=yes	<input type="checkbox"/>
	during CEW use	1=yes	<input type="checkbox"/>
	after CEW use	1=yes	<input type="checkbox"/>

“Hard” physical control: (open & empty hand strikes, punches, kicks to target areas)	before CEW use	1=yes	<input type="checkbox"/>
	during CEW use	1=yes	<input type="checkbox"/>
	after CEW use	1=yes	<input type="checkbox"/>

OC/Pepper spray warning: (presence, display)	before CEW use	1=yes	<input type="checkbox"/>
	during CEW use	1=yes	<input type="checkbox"/>
	after CEW use	1=yes	<input type="checkbox"/>

OC/Pepper spray use:	before CEW use	1=yes	<input type="checkbox"/>
	during CEW use	1=yes	<input type="checkbox"/>
	after CEW use	1=yes	<input type="checkbox"/>

Baton use: (ASP)	before CEW use	1=yes	<input type="checkbox"/>
	during CEW use	1=yes	<input type="checkbox"/>
	after CEW use	1=yes	<input type="checkbox"/>

ARWEN gun use: (flexible baton)	before CEW use	1=yes	<input type="checkbox"/>
	during CEW use	1=yes	<input type="checkbox"/>
	after CEW use	1=yes	<input type="checkbox"/>

Restraints: (handcuffs, zip straps, hobble, hogtie)	before CEW use	1=yes	<input type="checkbox"/>
	during CEW use	1=yes	<input type="checkbox"/>
	after CEW use	1=yes	<input type="checkbox"/>

Highest level of restraint applied (specify)

INJURIES

Injuries to staff	1=yes	2=no	3=unknown	<input type="checkbox"/>
If yes, note severity	1=minor	2=serious	3=unknown	<input type="checkbox"/>
If yes, specify nature of injury	<input type="text"/>			

Injuries to inmate (related to CEW use)	1=yes	2=no	3=unknown	<input type="checkbox"/>
If yes, note severity	1=minor	2=serious	3=unknown	<input type="checkbox"/>
If yes, specify nature of injury	<input type="text"/>			

Injuries to inmate (unrelated to CEW use)	1=yes	2=no	3=unknown	<input type="checkbox"/>
If yes, note severity	1=minor	2=serious	3=unknown	<input type="checkbox"/>

APPENDIX I

If yes, note: 1=injuries present prior to staff arrival
2=injuries self-inflicted during incident
3=injuries sustained during intervention
4=unknown when injuries sustained ☐

Subject examined by medical staff/nurse on scene 1=yes 2=no 3=refused ☐
Subject taken to medical care unit for medical attention 1=yes 2=no 3=refused ☐
Subject transported to hospital 1=yes ☐

POLICY CONSIDERATIONS (Reference use-of-force policy to complete this section)
(code 3=unknown 4=Not applicable 5=No policy 6=Borderline/discretion)

Was the CEW deployed in accordance with use-of-force policy? (i.e., subject actions warranted use of CEW) 1=yes 2=no ☐
If not, explain:

Were policy prescribed steps taken before deployment of the CEW? (eg., was a warning/challenge issued?) 1=yes 2=no ☐
If not, explain:

Were policy prescribed steps taken while discharging the CEW? (eg., was the CEW aimed at an allowable part of the subject's body?) 1=yes 2=no ☐
If not, explain:

Was the CEW deployed (stun or probe) in the presence of flammable vapors or liquids? 1=yes 2=no ☐

Was policy relating to multiple CEW deployments followed? 1=yes 2=no ☐
If not, explain:

Was policy relating to duration of CEW deployment followed? 1=yes 2=no ☐
If not, explain:

Were policy prescribed steps to be taken after deployment of the CEW followed? (eg., removal of probes, attendance of PAS, prevention of positional asphyxia) 1=yes 2=no ☐
If not, explain:

Was photographic evidence collected at the scene? 1=yes 2=no ☐

Note any other comments or observations on the reverse of this page.

GLOSSARY

Acidosis—an increase in the acidity of the blood caused by an increase in acid in the blood (*i.e.*, hydrogen ions) or a decrease in the alkaline reserve in the blood and body tissues (*i.e.*, bicarbonate), or by the buildup of carbon dioxide in the blood, which decreases the blood pH level below the normal range of 7.35 to 7.45.

Adrenergic state—a condition resulting from the release of epinephrine and/or norepinephrine (adrenaline) into the body, leading to a heightened state of awareness, anxiety, and/or agitated activity.

Autonomic instability—an instability in the nervous system causing symptoms which may include rapid breathing, sweating, increased heart rate, and unstable blood pressure. Autonomic instability is commonly exhibited by patients suffering delirium—a medical, physiological response to external insults (*i.e.*, changes in perception).

Aneurysm—a blood-filled bulge formed by a weakness or disease in the wall of an artery, a vein, or the heart.

Agonal gasping reflex—a brain stem reflex causing an individual to take strong gasps for air, sometimes a last gasp.

Arrhythmia (or Dysrhythmia) —variation from the normal rhythm or number of beats per minute of the heart.

Bradycardia—refers to a slow heartbeat and can result in lowered blood pressure.

Bipolar—a mood disorder that can shift between depression and intense activity.

Cardiopulmonary resuscitation (CPR)—a technique to restore breathing and heartbeat through external manipulation.

Catecholamine—a type of hormone or neurotransmitter that may be secreted from the adrenal glands, often associated with the “fight or flight” syndrome.

CEW—conducted energy weapon.

Commotio cordis—a sudden disturbance to the heartbeat resulting from a sharp and strong non-penetrating blow to the chest area, occurring often in sports events.

Conducted energy weapon—an electrical device (weapon) that discharges a high voltage—low amperage current that causes extreme pain and/or neuromuscular incapacitation.

Congestive heart failure—a condition in which the heart cannot pump enough blood to supply the body’s tissues with sufficient oxygen.

Contralateral positioning—positioning on the opposite sides.

Defibrillation—a treatment used to restore an arrhythmic (abnormally beating) heart to a normal cardiac rhythm, often by applying an electrical shock.

Delirium tremens—commonly known as the DTs, episodes of shaking following withdrawal from alcohol or drugs; also referred to as the “shakes.”

Dopaminergic—pertaining to the neurotransmitter dopamine.

Electrocardiogram (ECG or EKG)—a graphic illustration of the electrical activity of the heart.

Electrolyte—a substance (solid or liquid) that can conduct an electrical current.

Excited delirium—a controversial term used to describe a person who is highly agitated and often under the influence of stimulants/drugs or suffering from a mental condition.

Homeostasis—the maintenance of relatively stable and constant internal physiological conditions.

Hyperthermia—a condition of having an elevated temperature of the body.

Hypertrophic cardiomyopathy—a disease of the muscle of the heart, also a thickening of the heart muscles.

Hypocalcemia—a condition of having a shortage of calcium in the blood.

Hypoxia—a condition of having a shortage of oxygen in the blood.

Intercostal muscles—the muscles that run between and are connected to the ribs.

IM/IM—Incident Management/Intervention Model, graphic and criteria developed and adopted by the RCMP to guide officers in the use of force.

Ipsilateral positioning—positioning on the same side.

Ischemia—a lack of blood flow to a part of the body such as the heart.

Joule—a measurement of electrical energy. A joule is equivalent to one watt lasting one second.

Lethal cover, lethal force overwatch—the practice of a least one police officer having her/his firearm ready during an incident while another officer is using less lethal methods.

Muscular tetany—the involuntary contraction or spasm of muscles.

Myocardial infarction—commonly known as a heart attack, occurs when the blood supply to the heart or a part of the heart is interrupted.

Myocardium—a layer of muscles in the wall of the heart.

Neuromuscular incapacitation—the loss of muscle control caused by involuntary stimulation of the sensory and motor nerves.

NUFF—National Use of Force Framework, a graphic illustration and criteria developed and adopted by the Canadian Association of Chiefs of Police to guide officers in the use of force.

P-wave—represents the contraction of the upper chambers of the heart (atria) on an ECG.

Petechia—a small red or purple spot on the body containing blood, caused by a localized hemorrhage.

Pepper spray—a chemical spray irritating and painful to the eyes. Also known as oleoresin capsicum or OC spray.

Probe mode—refers to the application of electrical current through two “hook-like” probes that are fired from a conducted energy weapon such as the TASER X26.

Push-stun mode—refers to the direct application of electrical current by firmly applying the two terminals at the end of the conducted energy weapon against a subject.

QRS—represents contraction of the ventricles on an ECG.

T-wave—represents the peak of the recovery period in one cycle of the heart rhythm.

Taser—commonly used to refer to a conducted energy weapon.

Renal—pertaining to the kidney(s).

Rhabdomyolysis—muscle damage that releases impurities to the blood and can lead to an overload of the kidneys and eventual kidney failure.

Schizophrenia—a mental disorder whereby the individual has a perceptual difficulty that can be expressed through hallucinations, paranoia, and delusions.

Sinus rhythm—the normal rhythm of the heart, as set by the sinoatrial node (the heart's natural pacemaker) of the heart.

Systolic function—the phase of blood circulation in which the heart's ventricles are actively pumping blood and the pressure against the arteries is at its highest.

Transdiaphragmatic positioning—positioning across the diaphragm.

Ventricular capture—contraction of the ventricles caused by an electrical impulse in the heart, or the control over the contraction of the ventricles.

Ventricular fibrillation—a condition in which there is uncoordinated and abnormal contraction of the muscles of the ventricles in the heart.

Ventricular tachycardia—the rapid beating of the ventricles of the heart causing an abnormally fast heart rate.