

## BRIEFING NOTE

Secretariat Unit  
Corporate Strategy & Performance Department  
Ph: 92476524  
E-mail: CMG.SECRETARY@police.vic.gov.au

**To:** POSC  
**From:** Acting Superintendent Craig WALSH  
**Subject:** Provision of TASER Electronic Control Devices (ECD) to general duty operational members.  
**Date:** 27/02/2007

## OVERVIEW

In November 2006 the State Labor Government as part of their election strategy announced funding to the extent of \$10 million for the provision of alternative weapons systems for operational police as a one off funding strategy. This paper provides information on the Taser and its suitability for use by general duties police.

By definition the Taser is a conducted energy weapon, which uses propelled wires to conduct energy that affects the sensory and motor functions of the central nervous system. The Taser X26 discharges 50,000 volts at .00021 amperes which both stuns and overrides the central nervous system causing uncontrollable contractions of the muscle tissue. The affect of this on the human body is that the neuro-muscular Incapacitation causes uncontrollable stiffening of the muscles and an inability to react or override the affect which invariably causes the subject to fall to the ground or to lose control of the affected part of the body.

The Taser has a high level of accountability with an inbuilt database within each unit independently recording the time, date, duration, temperature and battery status of each firing. This data can be downloaded via a USB cable. In addition to the database each Taser cartridge contains 20 – 30 AFID (Anti-Felon Identification) tags. As the cartridge is discharged it disperses between 20 – 30 of these tags at the scene, these tags are printed with the serial number of the cartridge and can be used to determine the number of cartridges that were fired and who fired them.

A recent innovation available to Taser is the Taser-Cam. The Taser-Cam replaces the battery pack of the X26 Taser and activates when the safety switch is in the armed position, this then provides a minimum of 1 hour of video and audio recording showing actual footage wherever the Taser is aimed, the unit has a inbuilt infrared light source for reduced or no light capability and downloads via a USB cable and a video interface module.

The Taser is similar to OC spray in that it is capable of being used in both planned and unplanned operations. Operational experience in all jurisdictions has indicated that the optimum results are obtained if a Taser is available at the onset of a critical incident to avoid the use of higher levels of force or situations developing into a stand off or siege. A number of interstate and overseas agencies have issued Taser to first responders for this reason and the results obtained confirm that it is very effective when utilised in this manner.

Currently within Victoria Police the Taser is on issue to the SOG and FRU CIRT only. Statistics from the Use of Force Data Base indicate that there have been 43 deployments within Victoria since its introduction. During these deployments there has been one injury reported by a member (not related to the Taser application) and no injuries reported by subjects as a result of the application of the Taser.

Currently the Force is paying a WorkCover premium of \$58,653,792.00 (for the period 2005/06). Injuries incurred by members during the arrest & restraint process make up the biggest component of the slip & strain claims which form the second biggest expense to the Force behind stress claims (indicative cost currently being sought). The chart below sets out the number of incident/injuries as a result of arresting offenders (up until 28 February 2007).

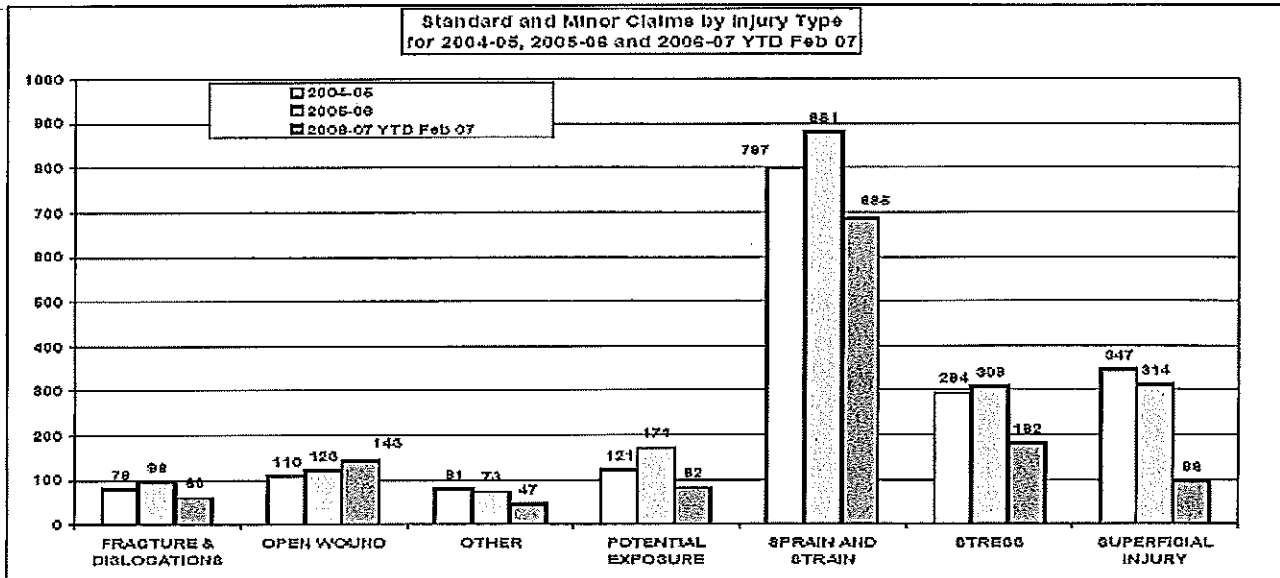
Year	Number of Incidents/Injuries
2002	651
2003	592
2004	521
2005	611
2006	667
2007	98
<b>Total</b>	<b>3140</b>

YTD data only

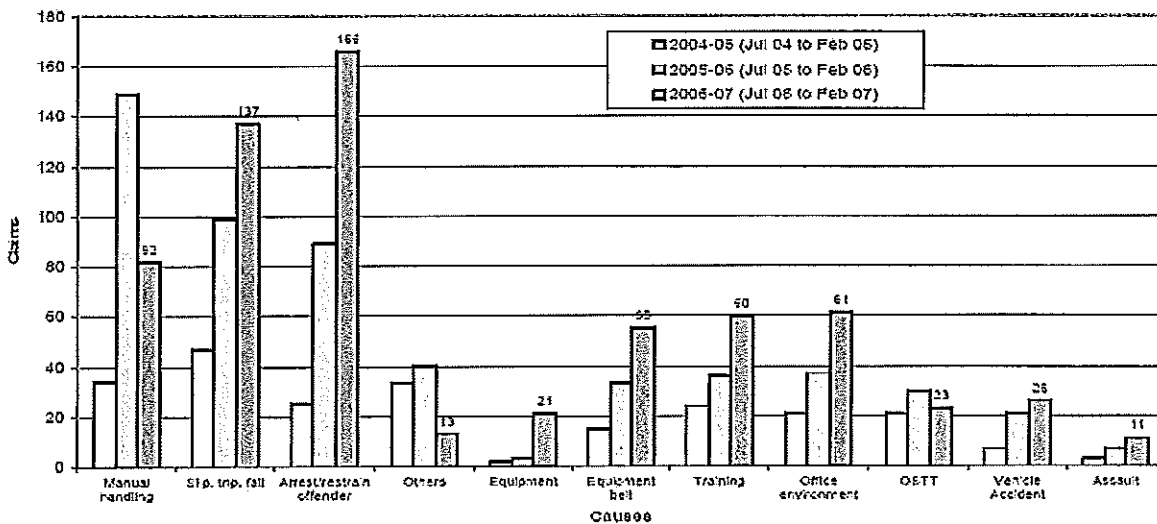
# RELEASED UNDER FREEDOM OF INFORMATION - VICTORIA POLICE

arrest/restraint offender	2004/05	2005/06	Jun06 - Mar07
Number of claims	89	102	93
Total compensation paid	269,124.00	396,700.00	304,350.00
Number of days paid	712	1281	950
Total VicPol premium		58,653,792.00	49,688,073.00

The above data sets out the number of claims and expenses from dates 01/07/04 - 30/06/05, 30/06/05 - 01/07/05 and 01/07/06 - 31/03/07. Data is based on standard claims (more than 10 days off or over \$531 in costs) minor claims are not included in this report.



Causation of Sprain and Strain Injury claims for July to February each financial year - 2004-05, 2005-06 and 2006-07



Evidence from overseas jurisdictions indicates a substantial reduction in injuries varying between 33% to 80% to members as a result of the introduction of the Taser. Advice received from Sergeant Michael SANDILANDS of the West Australia Police has indicated that as a result of the recent introduction of Taser to general duty members, a reduction in injuries to members during critical incidents has already been identified. Victoria Police is currently seeking statistical advice from West Australia to validate this advice.

The use of Taser has a number of advantages over other less than lethal options such as OC Spray, Extendable batons and empty hand control techniques some of these are:

- Taser does not rely on pain compliance for effect, as a result it is effective on highly motivated or drug affected individuals.
- Taser is not wind affected.

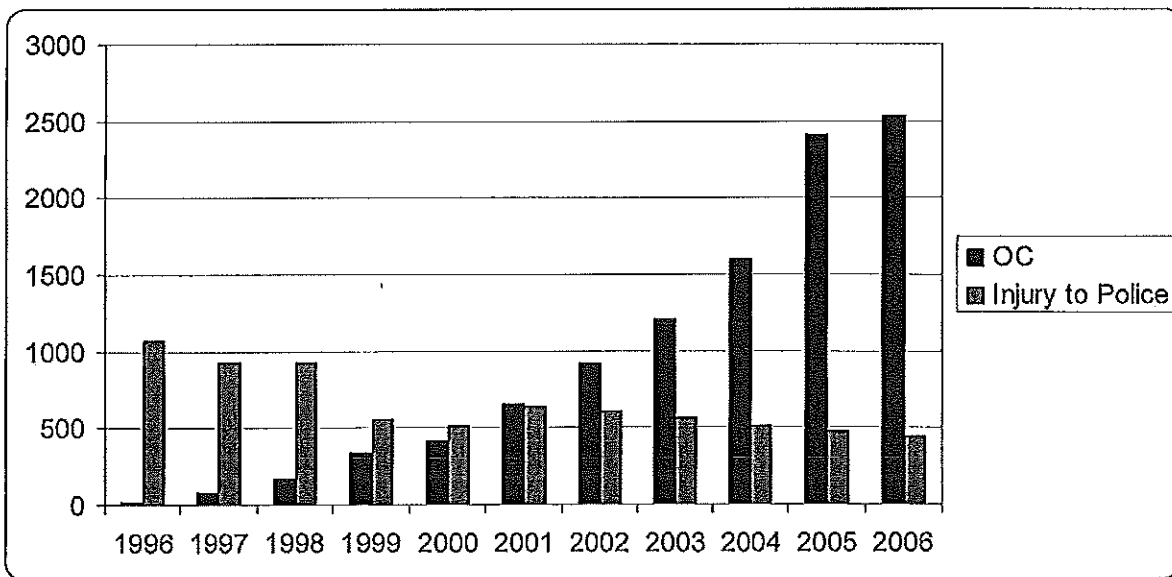
## RELEASED UNDER FREEDOM OF INFORMATION - VICTORIA POLICE

- Taser is not non-discriminatory like OC (no cross contamination or secondary exposures to other individuals or members).
- No contamination of venue or scene with subsequent expenses incurred in rehabilitation of scenes after deployment of OC spray (e.g. Bendigo, Foster where substantial ex-gratia payments were made to rehabilitate venues contaminated by OC and chemical munitions).
- Minimal aftercare requirements (no 45 minute waiting period as per OC, no lasting effects from Taser).
- No lasting physical effects or injuries as a result of being struck with impact weapons.
- Control effected at a distance hence minimal opportunity for subjects to injure members.
- Laser 'painting' of subjects has been found to gain compliance in the majority of cases (evidenced from the current New Zealand trial).
- Taser deployment has been found to have huge deterrent affect on individuals in subsequent encounters.
- Decrease in complaints due to allegations of excessive use of force.

Despite these advantages there are a number of limitations to Taser these include:

- Miss with probe or only single probe achieves contact with subject.
- Probes are not spread far enough apart thus compromising effectiveness (pain compliance only).
- Probes impact an area of low muscle mass which minimises incapacitation effect.
- Subject wears loose or thick clothes (in excess of 5 cm) which is detrimental to effectiveness.
- Wires break.
- Subject running (difficult target)
- Subject in elevated position and at risk of injury if they fall
- The subject is operating vehicle or machinery.
- The subject is located in a flammable or explosive environment.
- The subject obviously pregnant.
- The subject is in water (risk of drowning or ingesting water)
- The subject is obviously frail or infirm rendering the use of Taser inappropriate.

A study from Use of Force data regarding the types of force used by members and injuries to Police indicates that since the introduction of OC spray to the Force in 1996 there has been a graduated decrease in injuries to members which is commensurate with an increase in the rate of use of OC. This indicates that as the requirement to deal with subjects hands on has decreased so has the number of injuries to members.



### RESEARCH

Evidence from the United States from the following Police Departments has all indicated dramatic decreases in injuries to members and suspects as a result of the introduction of Taser: Cincinnati Police Department, Phoenix Police Department, Orange County Police, Charlotte Mecklenburg Police and El Paso Police Department have all provided data which identifies decreases in officer and suspect injuries following the introduction of Taser. This information was procured from Taser Int. training material but was independently validated by direct contact with the following officers at these workplaces;

- Cincinnati Police Dept:- Lt. Doug Ventre, SWAT Training Unit.
- Phoenix Police Dept:- Sgt. Tim Woods, Phoenix Police Training Academy
- Orange County Police:- Sgt Vincent Bravada, Tactical Training Unit
- Charlotte-Mecklenburg Police Dept:- John Cutchell, Research Planning & Analysis Section
- El Paso Police Dept:- Mike Kaiser, Analyst, Criminalistics Section

## RELEASED UNDER FREEDOM OF INFORMATION - VICTORIA POLICE

An independent study conducted by the U.S. Dept. of Defence, Joint Non-Lethal Weapons Directorate & Air Force Research Laboratory has determined in 2005 that, Analyses provided by law enforcement agencies indicate that increased use of the M26 or X26 Taser may likely decrease the overall injury rate of both police officers and suspects in conflict situations when compared to alternatives along the use of force continuum.<sup>1</sup>

This research has been internally corroborated by Inspector Murray ASHBY of the Victoria Police in March of 2007 whilst completing a Churchill scholarship into the subject of Policing and Mental Health. The use of Taser has been used and deployed widely throughout the United States of America and in many cases was implemented simultaneously with Crisis Intervention Team program. It is clear from conversations with many CIT officers that Taser has had an effect on the reduction in police shootings involving mental health consumers and Montgomery County Police indicate that 33% of Taser discharges relate to mental health incidents.<sup>2</sup>

A major concern relating to any proposed use of Conducted Energy Devices (CED) is the subject of deaths proximal to CED use. A study conducted by the Canadian Police Research Centre and published in late 2005 concluded that:

- Definitive research or evidence does not exist that implicates a causal relationship between the use of CED's and death.
- Existing studies indicate that the risk of cardiac harm to subjects from a CED is very low.
- Excited Delirium although not a universally recognized medical condition is gaining increasing acceptance as a main contributor to deaths proximal to CED use.
- 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 connections between deaths, CED use and people exhibiting the symptoms of excited delirium.

The contributors to this CPRC report believe that CEDs are effective law enforcement tools with a low risk of harm to the subject. Other developments have come to light that should have an effect on police CED training and operational use that will further mitigate an already minimal risk.<sup>3</sup>

Independent research commissioned by the Victoria Police in 2004 and conducted by the Alfred Hospital has determined that *the device presents an acceptable risk when used by trained law enforcement officers in accordance with the manufacturer's directions for use.*<sup>4</sup>

There is a universal concern regarding the potential for adverse effects on individuals exposed to Taser, particularly the affect on the heart. A study was conducted in 2006 by the University of California, San Diego involving cardiac monitoring of human subjects exposed to the Taser. The conclusion of this study was that Other than an increase in heart rate, there were no cardiac dysrhythmia or ECG morphology changes in human subjects who received a Taser shock.<sup>5</sup>

The Association of Chief Police Officers (United Kingdom) in 2005 issued an operational guidance manual on Taser which includes research into the health aspects of its use. This research has been summarised as follows: Experience from the use of tasers in other countries, which is supported by medical assessment in the UK, has shown that the persons most likely to be at greatest risk from any harmful effects of the taser device are those also suffering from the effects of drugs or who have been struggling violently. There are some cases where such persons exposed to the effects of taser have died some time after being exposed although the cause is unlikely to have been taser itself. For this reason, such persons should be very closely monitored following exposure to the effects of the taser. In addition, and as highlighted in other guidance, if there is any suspicion at all that the violent behaviour of any subject is being caused by excited delirium, they should be treated as a medical emergency and conveyed directly to hospital.<sup>6</sup>

At this time in excess of 180 people in the United States and Canada have died after being exposed to Taser, the vast majority of these individuals were diagnosed as suffering from extreme levels of ingestion of restricted substances whilst others have been diagnosed with pre-existing medical conditions that have made them susceptible to 'in custody death' as a result of the stressful situation in which they were involved. The condition known as 'excited delirium' in which bodily functions shut down as a result of sensory overload is widely believed to have been the cause of many of the deaths and this forms part of an National Institute of Justice (NIJ) study into deaths following Electro-Muscular Disruption. The reality of the situation is that in critical incidents involving people with pre-existing medical conditions, the ingestion of drugs and/or the presence of 'existed delirium' the subject would have been subjected to an alternative use of force option which in all likelihood would not have altered the final outcome.

The OSTT Unit has conducted exhaustive inquiries in order to identify valid academic studies or research that establishes a link between the use of Taser and deaths in custody; these inquiries have been to no avail. The

<sup>1</sup> U.S. Dept. of Defence, Joint Non-Lethal Weapons Directorate & Air Force Research Laboratory. Human Effectiveness and Risk Characteristics of the Electromuscular Incapacitation Device – A limited analysis of the Taser.

<sup>2</sup> Inspector Murray Ashby, Churchill Scholarship: "To study inter-agency co-operation between police and health agencies to determine best practice in the identification and reduction of critical incidents involving persons affected by mental health issues."

<sup>3</sup> Canadian Police Research Centre, Technical Report TR-01-2006, Review of Conducted Energy Devices

<sup>4</sup> Taser X26 Safety Analysis conducted by Biomedical Engineering, the Alfred Hospital, Melbourne 2004

<sup>5</sup> Academic Emergency Medicine Volume 13, Number 5, Cardiac Monitoring of Human Subjects Exposed to the Taser.

<sup>6</sup> Association of Chief Police Officers, Operational Use of Taser, Operational Guidance.

## RELEASED UNDER FREEDOM OF INFORMATION - VICTORIA POLICE

most prolific author of articles regarding this issue is Amnesty International who has published numerous unsubstantiated claims in an attempt to establish a link between the use of Taser and in custody deaths.

On face value it would appear that there is potential for a causal link between the use of Taser and in custody deaths, however, a study of numerous papers into the subject indicates that subjects exposed to Taser die after interaction with the Police at the same or a slightly lesser rate than subjects who have not been exposed to Taser. Experience in Victoria and elsewhere strongly suggests that the design and implementation of appropriate policy around the use of Taser assists in mitigating the risk of serious injury or death.

In evaluating the potential risks in the adoption of Taser by general duty members the concerns regarding in custody deaths must be balanced against a proven decrease in injuries to both police officers and subjects as a result of the capability of controlling subjects without having to resort to armed or unarmed impact techniques or hands on restraint of subjects. In addition to the reduction in injuries to members and subjects, evidence from multiple jurisdictions (including Victoria) has indicated that there are numerous instances where the deployment of Taser has avoided the use of lethal force.

The study underway by the NIJ, which commenced in May of 2006, is expected to deliver findings in 2008 after a period of some 24 months. The Acting Director of the NIJ has not urged any immediate changes in the deployment of TASER and has gone further to add "There is no reason to do anything different for now, we'll let the research answer the questions"<sup>7</sup>

As of last year, Taser International was currently a named defendant in 49 cases of wrongful death or unlawful injury, a further 20 cases have been dismissed and as of this date no successful law suit has been brought against Taser International in which either death or injury as a result of the use of Taser has been able to be made out.

The current status of Taser with regards to current issue to Government agencies within Australia is as detailed below:

### Tasmania Police

- Special Operations Group

### Tasmania Corrective Services

- Dept of Justice (TRG)
- Current Use: General usage for cell extractions and escorts

### South Australia

- STAR Group (Equivalent to SOG & FRU)

### Northern Territory

- Tactical Response Squad (Equivalent to SOG)
- Current Use: Specialist area.
- Agreement to be issued to General duties members with 4 to 5 units per Station, awaiting funding
- Training program established of one day duration.

### Queensland

- SERT (Equivalent to SOG)
- PSRT (Equivalent to FRU)
- On the 1<sup>st</sup> of July a 12 month trial will commence in three Regions with Duty Officers carrying Tasers, this will involve approximately 80 members at Inspector & S/Sgt. Rank who will attend all critical incidents.

### Queensland Corrective Services

- Current Use: Trial period

### Australian Customs

- Current Use: Specialist areas

### Australian Federal Police [AFP]

- AFP Overseas Response Team
- Current Use: Deployed at various neighbouring countries
- AFP International Deployment Group
- Current Use: East Timor, Solomon's

### Australian Military

- Dept Science & Technology Organisation
- Current Use: Trial & research

### Victoria Corrective Services

---

<sup>7</sup> USA Today, Justice Department looks into deaths of people subdued by stun guns, 13/06/2006

## RELEASED UNDER FREEDOM OF INFORMATION - VICTORIA POLICE

- Emergency Management Unit
- Current Use: Trained main instructional personnel

### Victoria Police

- SOG & FRU

### Western Australia Police

- Current Use: 218 units spread across the state. Pending orders of 1,000 plus units are expected prior to end of financial year.
  - 1800 members trained to date
  - One day training package
  - Averaging 1 deployment per day
  - One confirmed deployment where subject would have been shot if not for TASER.
- A total of 45 instructors are trained in preparation to train all operational members.

### Western Australia Corrective Services

- Specialist Response Unit
- Current Use: Specialist areas with reports recommending issue to thirteen complexes for Cell extraction and escorts. WA WorkCover direction for Taser to be present for all cell extractions.

### NSW

- OSTU
- Current Use: NSW has the highest amount of Master Instructors with 13 members qualified. An order is currently being filled for 200 units for coverage of four regions on a trial basis.

The use of Taser is also currently subject to evaluation in New Zealand and the United Kingdom

### New Zealand

- A large scale operational trial is in the process of being conducted in four Regions of New Zealand with a decision to be made at the conclusion of the trial as to full implementation. As at 30<sup>th</sup> January 2007 there have been a total of 56 incidents involving the Taser including 8 incidents where it has been discharged. An evaluation of the incidents has indicated that the presence of the Taser has enabled them all to be resolved with the minimal use of force thus avoiding injuries to both the officers and the subject.

### United Kingdom

- The Association of Chief Police Officers (ACPO) is conducting an operational trial of Taser which involves the London Metropolitan Police, Cleveland Police, Dorset Police, Norfolk Constabulary, West Yorkshire Police, Hampshire Police, Greater Manchester Police, West Midlands Police, Durham Constabulary, North Wales Police and Staffordshire Police.
- The Taser is issued alongside conventional firearms to authorised firearms officers who have successfully completed approved ACPO sponsored training in the use of the device.
- Advice from Sgt. Mark Pugsley of the Policy Unit, London Metropolitan Police is that the results to date from the trial have been extremely positive and he has forwarded copies of the Use of Taser policy adopted by the London Metropolitan Police as well as summary sheets of all deployments up until December 2006. A trial of Taser for unarmed members is currently being considered.

## ALIGNMENT WITH OCCUPATIONAL HEALTH & SAFETY POLICY - CONSIDERATIONS

The consideration of Occupational Health and Safety in the context of deploying Taser is a significant factor but is still only one of many surrounding a final decision on their wider deployment. Accordingly, the following discussion relates to what the organization needs to consider in the deployment of Taser to general duty members. The likelihood of reducing workplace injuries has been previously discussed.

The issue of the Taser to members can also be considered in line with Section 21 (1) of the OHS Act 2004 which places a general duty on the employer to provide and maintain so far as is practicable a working environment that is safe and without risks to health by minimizing the risk of injury to members through providing an alternative methodology for dealing with subjects which does not involve manual handling issues.

Anecdotal evidence from Western Australia suggests that providing appropriate additional subject control options such as the Taser will also have a positive impact on the morale levels of operational police members which will result in a greater sense of confidence as police go about their duties. In addition, members will have an enhanced capacity to select an appropriate less than lethal use of force option, thereby enhancing their capability to respond to crime and community safety.

## PUBLIC PERCEPTION

The issue of public perception needs to be managed from both positive and negative aspects. Information from other jurisdictions indicates that there can be strong public backing for the use of the Taser by general duty members. It is also clear that there can also be strong negative public comment. The trial currently underway in New Zealand involved a strong marketing component and this has provided additional benefits in that the public are well aware of Taser and its capabilities and the majority of incidents where the Taser has been produced resulted in immediate compliance by the subject.

The Victoria Police have been using Taser since early 2004 and public acceptance of this innovation has been positive with no negative feedback known (apart from Amnesty International and civil liberty groups). In the circumstances that approval was granted for the issue of Taser to general duty members an appropriate marketing strategy should be considered similar to that adopted in New Zealand.

Strong opposition has been made to Taser by Amnesty International and other Civil Liberty groups who have made numerous unsubstantiated claims in relation to the alleged dangers posed by Taser. Interestingly similar comments were made prior to the introduction of OC spray in Victoria some years ago however it is now utilised on a regular basis by operational members with little adverse comment from the public. Indeed there is often negative public comment after police shootings if OC spray has not been utilised.

### TRAINING CONSIDERATIONS

The current cost of a Taser ECD is \$1600 per unit and cartridges (both operational & training) cost approximately \$50 each.

The Taser International accredited training consists of six hours (1 day) and utilises two single use cartridges. Refresher training consist of an annual re-qualification with a further two cartridges.

A number of members of the Victoria Police have qualified as Master Taser Instructors and are capable of qualifying TASER instructors internally.

There are a number of possible implementation models that could be considered if the issue of Taser to operational police members is considered appropriate.

### ISSUES TO BE CONSIDERED

The considerations surrounding Tasers can be broken up into two steps. Firstly, is there a desire at executive management level to consider the wider deployment of Tasers to general duties members? The second step, if such a desire exists, is to then consider the best implementation model involving the issue of Tasers to operational units or individual operational members. Clearly, funding and cost considerations would form part of this decision along with legitimate operational imperatives.

If there is a desire to extend the deployment of Tasers to general duties members then the following could also be considered to ensure the process is managed and undertaken in a considered and logical manner.

- A trial of the Taser could be conducted that would provide an opportunity to evaluate its effectiveness and appropriateness in a general duties environment (city and country) and also allow Victoria Police to measure public perceptions and their acceptability of such a less lethal option.
- The design of a communications strategy (internal and external) to accompany any wider implementation of the Taser in order to increase levels of acceptability and understanding of its use within the Victorian Community.
- If a decision is made to issue the Taser to operational police two initial options are suggested which would meet the needs of the Victoria Police that are close to or within the parameters of the announced budget:

#### Option one

Operational Unit issue			
Taser ECD	2200	@ \$1600	\$3,520,000
Initial training cartridges	17,000	@ \$50	\$850,000
Annual ongoing training cartridges	17,000	@ \$50	\$850,000 (recurrent)

Initial cost of \$4.37 million with annual recurrent expenditure of \$850,000 for refresher training.

#### Option two

Station issue (one for one with firearms/batons)

Taser ECD	6000	@ \$1600	\$9,600,000
Initial training cartridges	17,000	@ \$50	\$850,000
Annual ongoing training cartridges	17,000	@ \$50	\$850,000 (recurrent)

Initial cost of \$10.45 million with annual recurrent expenditure of \$850,000 for refresher training.

#### ISSUES ARISING

##### Option 1: Advantages

Reduced initial procurement cost  
Uniform training across workforce  
Immediate access to Taser by general duty operational members  
Ensures members have the ability to deploy a less lethal and a lethal option during a critical incident

##### Option 1: Disadvantages

Lack of access to Taser by members not operating from a vehicle  
Only one member from each vehicle will have carriage of the Taser

##### Option 2: Advantages

Uniform training across workforce  
Immediate access to Taser by all operational members

##### Option 2: Disadvantages

High cost of initial procurement

#### RESEARCH PAPERS AVAILABLE IF REQUIRED

- U.S. Dept. of Defence, Joint Non-Lethal Weapons Directorate & Air Force Research Laboratory. Human Effectiveness and Risk Characteristics of the Electromuscular Incapacitation Device – A limited analysis of the Taser.
- Inspector Murray Ashby, Churchill Scholarship:- "To study inter-agency co-operation between police and health agencies to determine best practice in the identification and reduction of critical incidents involving persons affected by mental health issues."
- Canadian Police Research Centre, Technical Report TR-01-2006, Review of Conducted Energy Devices.
- Taser X26 Safety Analysis conducted by Biomedical Engineering, the Alfred Hospital, Melbourne 2004.
- Academic Emergency Medicine Volume 13, Number 5, Cardiac Monitoring of Human Subjects Exposed to the Taser.
- Association of Chief Police Officers, Operational Use of Taser, Operational Guidance.
- USA Today, Justice Department looks into deaths of people subdued by stun guns, 13/06/2006

Craig WALSH

Acting Superintendent

Operational Safety Division