

**Less Lethal Weapons**

**Is the future of less lethal weapons stuck in the past?**

**by**

**Lieutenant Jose A. Delatorre  
Pleasant Hill Police Department**

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The Command College Futures Study Project is a FUTURES study of a particular emerging issue of relevance to law enforcement. Its purpose is NOT to predict the future; rather, to project a variety of possible scenarios useful for strategic planning in anticipation of the emerging landscape facing policing organizations.

This journal article was created using the futures forecasting process of Command College and its outcomes. Defining the future differs from analyzing the past, because it has not yet happened. In this article, methodologies have been used to discern useful alternatives to enhance the success of planners and leaders in their response to a range of possible future environments.

Managing the future means influencing it—creating, constraining and adapting to emerging trends and events in a way that optimizes the opportunities and minimizes the threats of relevance to the profession.

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## **Is the future of less lethal weapons stuck in the past?**

The public is unlikely to become any less demanding of law enforcement in the future with regard to use of force issues. Law Enforcement must explore avenues that will continue to allow aggressive enforcement tactics that can be employed while using minimal use of force. The adaptation of advanced technology for less lethal weapons may provide some solutions to this issue.

### **What is “Less Lethal”?**

Nationally recognized experts in the field of the use of deadly force, such as Geoff Alpert, maintain that 25% of the police shootings might be avoided with proper equipment and training. The controversy caused by these shootings, as well as expensive lawsuits have prompted more and more police forces to turn to an expanding pool of less lethal, but incapacitating weapons<sup>1</sup>. Less lethal weapons were developed to provide law enforcement, corrections, and military personnel with an alternative to lethal force. The term “less lethal weapons” refers to weapons such as bean bag shot shells, rubber bullets, and electronic stun devices to name a few. They are designed to temporarily incapacitate, confuse, delay, or restrain a suspect in a variety of situations<sup>2</sup>.

There are six general categories of less lethal weapons that currently exist or are in development (and some examples of each):

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<sup>1</sup> Christina Jones. “Police use of less lethal weapons,” (2008), <http://www.cjohns.com/lawpowerandjustice/commentaries/llethal.html> (accessed August 6, 2009)

<sup>2</sup> Honorable Sarah V. Hart, Director (National Institute of Justice), statement before U.S. House of Representatives, Less than lethal weapons, [online] accessed August 2008, available: <http://www.ojp.usdoj.gov/nij/speeches/aviation.htm>

- impact projectiles- truncheons, bean bag rounds, plastic and rubber bullets, rubber balls
- electrical – Tasers, stun guns, electrical batons, electrical shields, electrified nets, electrified water cannon, stun belts
- chemical – tear gas, pepper (OC) spray
- physical restraint- nets and wire entanglement systems
- light- diversionary device
- sound- acoustic hailing device

Although these categories do not encompass all less lethal weaponry, it does cover the areas of the less lethal weaponry that are currently available in some form to officers and deputies in the street. Law enforcement will soon see more developments in the areas of light and sound, including; The Active Denial System, Fuel Air Diversionary Device, and Acoustic Hailing Devices. These new developments that are occurring are a result of building on the technology of previous developed less lethal weaponry, and may present the profession with options that could be more effective, even less lethal, than their predecessors.

## **HISTORY OF LESS LETHAL WEAPONS**

Most Californians became aware of less lethal weaponry following the death of Ruben Salazar, a columnist for the L.A. Times killed in 1970 while covering the East L.A. Riots. Salazar was hit in the head with a tear gas projectile fired by a Los Angeles County Sheriff's Deputy and died<sup>3</sup>. Public and media opinion on less lethal weaponry again came to the forefront in the late 1980's and early 1990's with the mass introduction of OC (Oleoresin Capsicum)

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<sup>3</sup> Remembering Rueben Salazar (2008): <http://latimes.com/news/opinion/la-oew-salazarcc22apr22,0,5219139,print.story>

spray, better known as pepper spray<sup>4</sup>. There were a number of positional asphyxiation death cases that were directly attributed to the use of OC by police personnel. It was never conclusively determined to have a direct effect on any of the deaths<sup>5</sup>. Other less lethal technologies in everyday use by law enforcement have experienced similar problems.

There have also been reports of the use of the Taser being a direct contributor to the death of exposed subjects. Again, many of these cases are currently being examined, but to date, no cases of death have been directly attributed to the use of the Taser<sup>6</sup>. Taser International was found responsible for the death of a man who was subdued by police officers with the use of a Taser<sup>7</sup>. A Federal jury exonerated the involved police officers, but found Taser International responsible because they should have more effectively warned police that Taser shocks were potentially dangerous. An autopsy found that the suspect died from a combination of methamphetamine intoxication, an enlarged heart due to long-term drug abuse and Taser shocks. This case marked the first time Taser International was found responsible for a death due to use of their product.<sup>8</sup>

The use of less lethal weapons by law enforcement has not always met with support from the media and the general public. The problem with calling any weapon less lethal is the implications that the weapon is not quite deadly. There have been a number of deaths and serious injuries; however, attributed to the use of impact projectiles, electrical, chemical,

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<sup>4</sup> Onnen, Jami (June 1993), International Chief's of Police, [online] accessed August 2008, available: [http://www.zarc.com/english/cap-stun/tech\\_info/oc/](http://www.zarc.com/english/cap-stun/tech_info/oc/)

<sup>5</sup> Executive Brief on Pepper Spray and In-Custody Deaths, International Chief's of Police, [online] accessed July 2009, available: [http://www.zarc.com/English/other\\_sprays/reports/oc\\_death\\_executive\\_brief.html](http://www.zarc.com/English/other_sprays/reports/oc_death_executive_brief.html)

<sup>6</sup> Johnson, Jim (2008, June 7). Taser Held Responsible in Salinas Death. Common Dream.org Newscenter, [online] accessed August 2008, available: <http://commondreams.org>

<sup>7</sup> Johnson, Jim (2008, June 7). Taser Held Responsible in Salinas Death. Common Dream.org Newscenter, [online] accessed August 2008, available: <http://commondreams.org>

<sup>8</sup> Johnson, Jim (2008, June 7). Taser Held Responsible in Salinas Death. Common Dream.org Newscenter, [online] accessed August 2008, available: <http://commondreams.org>

physical restraint. An estimate by the International Association of Chiefs of Police suggested at least 113 pepper spray related fatalities had occurred in the United States, mostly from positional asphyxia, which is caused by airway-restrictive immobilizing holds<sup>9</sup>. One recent study out of New York, reported that over the last 8 years 334 people have died after being subjected to a Taser discharge by state or local law enforcement officers. Medical examiners concluded that the use of a Taser contributed to or caused at least 50 of these fatalities. The remaining 284 fatalities were largely attributed to other factors such as drug intoxication<sup>10</sup>.

Traditionally, less lethal weaponry causes some discomfort to police departments and City legal counsel. This is one of the reasons, for example, the Tallahassee Police Department has not adopted any less lethal weapons except the use of pepper spray by line level officers<sup>11</sup>. This discomfort has made it difficult to move to new and more technologically advanced weaponry. Much of the discomfort is due to the public skepticism and civil litigation which generally occurs when new less lethal weaponry is introduced<sup>12</sup>.

With cases such as the aforementioned, it is clear law enforcement faces the prospect of increased civil litigation in the area of less lethal weaponry. Recognizing this potential and selecting and implementing less lethal weaponry that has the ability to incapacitate, but cause minimal amount of injury is paramount.

Historically, we have seen new less lethal weaponry introduced with promise of the ability to subdue most people in any situation without causing any permanent physical harm; this

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<sup>9</sup> Wikipedia, Taser International, [online] accessed August 2008, available: [http://en.wikipedia.org/wiki/Taser\\_International](http://en.wikipedia.org/wiki/Taser_International)

<sup>10</sup> <http://www.networkworld.com/community/node/42198>

<sup>11</sup> Christina Jones. "Police use of less lethal weapons," (2008), <http://www.cjohms.com/lawpowerandjustice/commentaries/llethal.html> (accessed August 6, 2009)

<sup>12</sup> NGT Panel (Nominal Group Technique): September 25<sup>th</sup>, 2008- Pleasant Hill Ca

was especially true for OC spray. According to Police Captain John F. Moore, “there tends to be a movement to blame these new technologies for any death that occurs when they are used, regardless of what the real cause of death may be”<sup>13</sup>. In spite of this reality, policing must be prepared to assess and capitalize on emerging technologies to allow them to move away from current devices (and their attendant problems) to those that may be more effective, even less lethal, and which will face fewer objections from the public.

### **What is on the horizon?**

Law enforcement needs to be prepared for new less lethal weaponry that is being developed, tested and in some cases used, by the military. The following are some of the weapons that are currently under development or in early stages of military use:

**The Active Denial System**-The ADS works by directing electromagnetic radiation, specifically, high-frequency microwave radiation at a frequency of 95 GHz (a wavelength of 3.2 mm), toward the subjects. The waves excite water molecules in the epidermis to around 130 °F (55 °C), causing an intensely painful sensation of extreme heat. While not actually burning the skin, the burning sensation is similar to that of an incandescent light bulb being pressed against the skin. The focused beam can be directed at targets at a range of just under half a kilometer, or about 550 yards. The device can penetrate thick clothing, although not walls

**Fuel Air Diversionary Device** –the new fuel air technology was developed to address the issues associated with the severe over pressure that is produced in the near field of older-style diversionary devices. This diversionary device uses a “flash-bang” to produce a dust explosion on a very small scale – a gas generator rapidly ejects and ignites aluminum powder. That

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<sup>13</sup> NGT Panel (Nominal Group Technique): September 25<sup>th</sup>, 2008- Pleasant Hill Ca

deflagrating cloud of burning aluminum powder provides an intensely bright light and an ‘explosive’ noise. The body of the diversionary device itself does not explode, making the operation safer for the person deploying the item and for anyone in the area. This lessens the likelihood of injury and also the severity of the consequences should a mishap occur.

**Acoustic Hailing Devices** - AHD is a non-lethal, counter personnel, long-range hailing and warning device capable of producing highly directional sound beams, allowing users to project warning tones and intelligible voice commands beyond small arms engagement range. This capability helps soldiers (or peace officers) to more effectively determine the intent of a person, crowd, vessel, or vehicle at a safe distance, potentially deterring them prior to escalating to lethal force.

**LED Incapacitator**- Resembling a large flashlight, this weapon uses light emitting diode (LED) lights flashed at several frequencies with multiple colors and random pulses that the brain cannot process. The result is that the suspect becomes physically ill.

Several of these weapons are being scaled down so that they can be carried and operated by an individual. These applications would have significant relevance to the law enforcement community<sup>14</sup>. In the case of the LED incapacitator, the handheld device, which has already been dubbed the “puke saber”, is currently in its prototype stage, but soon could be a conceivable weapon used by authorities to restrain offenders. Sources from Homeland Security say that it

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<sup>14</sup> DefenseTech.org, less lethal weapons, [online] accessed July 2009, available: [http://www.defensetech.org/archives/cat\\_lesslethal.html](http://www.defensetech.org/archives/cat_lesslethal.html)

could be in the hands of thousands of policemen, border agents and National Guardsmen by 2010<sup>15</sup>.

## **THE FUTURE POSSIBILITIES OF NEW LESS LETHAL TECHNOLOGIES**

It is of utmost importance that law enforcement continues to prepare itself for technological developments in all areas including the area of less lethal weaponry. The relationship between communities and the law enforcement agencies that serve them can be greatly affected by the perception of excessive or unnecessary force.

If previous less lethal weapons had been looked at more closely, and there had been more community involvement prior to their implementation, we may not have faced many of the issues that arose. Law Enforcement has seen positive results when the public is educated to police procedures, especially in use of force cases<sup>16</sup>. As we move forward, we need to look at the new weapons and how they will impact us and the communities we serve.

## **PLANNING AND IMPLEMENTING NEW LESS LETHAL WEAPONS**

Agencies will have to anticipate a number of things to stay on the cutting edge of less lethal weaponry. The most important issues are budgetary and perception by the media and the general public. As law enforcement plans their operational expenditures during tough economic times, it will be very important for them to budget for day-to-day technology and tactical technology equipment. Most agencies focus on the technology needed for day to day operations

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<sup>15</sup> Shuan McKeegan. "LED incapacitator is enough to make you sick," Gizmag (2007), <http://www.gizmag.com/go/7775/> (accessed August 6, 2009)

<sup>16</sup> NGT Panel (Nominal Group Technique): September 25<sup>th</sup>, 2008- Pleasant Hill Ca

and much less on the tactical side of things<sup>17</sup>. It is important for law enforcement to stay on the cutting edge of less lethal technology to improve officer safety, reduce the risk of officer injuries and the number of injuries that occur in use of force cases.

To implement and be successful with any law enforcement program we need to have buy in from the public. This can be accomplished by continuing with citizen police academies, information given at neighborhood watch meetings and different public forums. New less lethal weaponry such as the Active Denial System or Directed Energy Directorate will cause concern from the public as it involves techniques or systems that are not well known. If and when they are implemented and used, it will be easy for the public to misconstrue the intent of the weapons unless they are educated beforehand.

A 2008 article in the Intelligence Daily Magazine, titled “Trigger-happy cops kill with 'non-lethal' Tasers” is an example of negative media that causes public concern. The article states in part, “In recent years, Tasers have been advertised to the public as "less-lethal" or "non-lethal" weapons so that cops can be free to use and abuse these extremely dangerous "stun guns" with little repercussion. Law enforcement agencies and police departments use the shock guns, which deliver 50,000-volt shocks when fired, as an alternative to firearms”<sup>18</sup>.

When the public reads information such as what is written above, it is easy to see how they could be influenced into believing that all less lethal weaponry is problematic. If the public had an understanding of how the Taser works, specifically that 50,000 volts is not lethal, the article would not be as shocking to their conscience. Educating the public as to how less lethal

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<sup>17</sup> NGT Panel (Nominal Group Technique): September 25<sup>th</sup>, 2008- Pleasant Hill Ca

<sup>18</sup> Yencia Cortez. “Trigger happy cops kill with “non-lethal” tasers,” InTellegence Daily (2008), <http://www.inteldaily.com/?c=173&a=843> (accessed August 4, 2009)

weaponry works would help eliminate the initial negative thoughts that pop into one's mind when reading articles that shed a negative light on less lethal weaponry.

## **Conclusion**

Although law enforcement currently faces a stream of negative perception in all use of force situations, it is important to look to ways of dealing with this negative perception. There are several ways to deal with this perception with the use of the media. Giving the media information in regard to significant use of force issues right when they occur, rather than waiting, will give the media the law enforcement perspective on the incident from the start. The local media should also be invited and included in activities such as citizen academies and neighborhood watch groups.

Police agencies need to get past the fears of dealing with the media and embrace what they can do to assist law enforcement as a whole in the perception of and capabilities of less lethal weaponry. If law enforcement embraces both of these groups and work with them appropriately, the support we receive will address the obvious perception issues, and it will make the transition to new less lethal weaponry smoother.