U.S. Department of Justice
Office of Community Oriented Policing Services

Conducted Energy Devices: Development of Standards for Consistency and Guidance

The Creation of National CED Policy and Training Guidelines

by
James M. Cronin
Joshua A. Ederheimer

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The International Association of Chiefs of Police, with support from the Office of Community Oriented Policing Services, the Bureau of Justice Assistance, the National Institute of Justice, and other policing organizations and associations, has developed an online clearinghouse for information on Less Lethal Weapons (**www.less-lethal.org**). The web site is growing, based on user feedback and contributions. It contains links, departmental policies, academic research papers, and a variety of other documents that are important to understanding the impact of Less Lethal Weapons in the community at large and within law enforcement.

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The opinions expressed are generally those based on the consensus of participants in interviews, site visits, or expert panel meetings; however, not every view or statement presented in this report can necessarily be attributed to each participant.

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Moreover, we appreciate the assistance provided to us by our fellow members of the DOJ Less Lethal Technology Working Group. The group, led by COPS Director Carl Peed and BJA Director Domingo Herraiz, provided invaluable expertise. The participants are listed in Appendix B of this publication. Moreover, critically important to the completion of this report was the willingness of an exceptional group

of individuals to attend a PERF symposium—professionals from both the law enforcement community and the private sector—with expertise on CEDs. This group of extremely busy individuals graciously spent two days in Houston, Texas, discussing CED issues and vetting both the glossary and national guidelines. A list of those participants is in Appendix A.

Finally, this report could not have been produced without the incredible efforts of talented and dedicated PERF staff. Executive Director Chuck Wexler guided this project, playing a key role in moderating the expert group in Houston, and helping to create a national consensus on both the guidelines and glossary. We thank Dana Murphy and Lisa Spahr for editing assistance and Jason Cheney for his research efforts. Thanks to Nathan Ballard and Anna Berke for their tireless efforts in making the arrangements for the Houston CED summit.

—James Cronin and Joshua Ederheimer

Foreword

Law enforcement leaders are constantly striving to identify new strategies to encourage safe encounters between police officers and violent persons. One aspect of encouraging positive outcomes during such encounters is by focusing attention on developing less-lethal strategies that balance minimal use of force with the operational necessity of arresting or disarming individuals.

An important part of a less-lethal strategy involves the identification and deployment of weapons and other technology. The goal is to provide police officers with alternatives to deadly force in order to minimize harm to both community members and police. In an effort to more effectively reduce both police-involved shootings and injuries, a number of innovative less-lethal devices have been developed. One of the most recently developed and prominent weapon is the conducted energy device (CED). CEDs are less-lethal devices intended to deliver an electrical charge sufficient to momentarily disrupt a subject's central nervous system, enabling better officer control of the individual and causing minimal discomfort or injury. According to some estimates, CEDs have been adopted by more than 8,000 police and sheriffs' departments across the country.

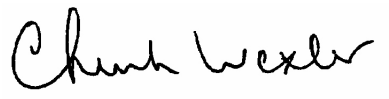
During the past 2 years, the Police Executive Research Forum (PERF) has invested considerable time and resources examining the impact that CEDs have had on law enforcement agencies and communities across the country. PERF staff members have conducted two national surveys—one focusing on identifying the state of the field, and the other examining circumstances and various factors related to deaths that occurred in proximity to a CED activation. In addition, PERF has hosted several international symposiums, identified and assessed available studies and reports, reviewed a large number of police and sheriff's department policies, partnered with Canadian and British counterparts, consulted with medical doctors, and examined media reports. Based on the information gathered through these venues, PERF drafted a CED glossary of terms and a series of national policy guidelines for the use of CEDs.

Subsequently, with the support of the Office of Community Oriented Policing Services (COPS) and the Bureau of Justice Assistance (BJA) of the U.S. Department of Justice (DOJ), PERF brought together representatives from more than 50 law enforcement agencies that

use CEDs, medical doctors, labor union representatives, academic researchers, and other subject matter experts to carefully vet the CED glossary of terms and the guidelines for consideration. While several longer term major studies of CEDs are in progress, the field urgently needs to have information, guidance, and consistency about these devices as soon as possible. While the guidelines and glossary are not meant to represent the final and definitive perspectives on CEDs, they do provide needed clarification and information that can help guide police executives in developing CED policy.

The glossary and guidelines in this report address policy issues that include critical topics such as what resistance levels delineate when CED activation is permissible; the number and duration of CED cycles that can be applied to a person; CED use against at-risk populations, how police should respond to a suspect armed with a CED; tactical considerations about when a CED can be activated; and numerous other concerns.

PERF developed the glossary of terms and guidelines for consideration in the hope that they will be useful in providing the kind of information that law enforcement leaders and policymakers need to better protect the public and the safety of their officers. PERF is pleased to bring this information to the field to help ensure the well-being of our nation's officers and to bring the best possible police services to all communities.



Chuck Wexler
Executive Director, PERF

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Introduction

As more and more conducted energy devices (CED)[1] were deployed across the United States, their use sparked considerable confusion. Police executives were inundated with questions about the devices, and had to explain—and in some instances, justify—several of the ways that the devices had been used as tactical weapons by their officers. The dearth of available information about how CEDs worked and how they were used in daily police work had hampered the ability of police executives to make informed policy decisions about the devices. Police executives had been provided with little independent support and guidance on CEDs, which had compelled them to make policy and operational decisions on CEDs with very little reliable information to back them.

[1] Conducted Energy Device (CED) is the preferred terminology for the weapon. However, the CED has also been referred to as Electro-Muscular Disruption Technology (EMDT); Electro-Muscular Incapacitation device (EMI); Electro Muscular Device (EMD); and Electronic Control Device (ECD). They all serve to describe this category of less-lethal weapons.

The Office of Community Oriented Policing Services (COPS) and the Bureau of Justice Assistance (BJA) of the U.S. Department of Justice (DOJ) recognized the pressing need for a greater understanding of these devices. They were aware of research activities that had been conducted on CEDs by the Police Executive Research Forum (PERF) and other organizations, and supported efforts to provide police chiefs with a fuller scope of information to help them make more informed decisions. The goal of this report is to share the CED glossary of terms and national CED guidelines for consideration, and to provide a context for how these items were developed. This report reflects the first step in providing guidance to the field to help bring consistency and a better understanding of the devices to the profession. As more research is completed, new information will be synthesized and the guidelines will likely need to be refined. CED technology is still maturing and, as it evolves, the profession will have to continually ensure that it is deployed safely and efficiently.

PERF's activities included two national studies—one determining the state of the field and the other identifying issues related to proximity deaths. PERF had also reached out to, and consulted with, many of the most experienced and knowledgeable CED professionals in the field to distinguish the most pressing issues and major obstacles. It conducted international symposiums with practitioners, medical doctors, academics, labor unions, and other expert stakeholders. PERF also interacted with representatives from Taser™ International, advocacy organizations, and international groups during the course of this endeavor. Also important, PERF consulted with fellow members of

the DOJ Less Lethal Technology Working Group, who offered their expertise and insights on less-lethal weapon issues.

Complementing these activities, PERF reviewed numerous studies and reports from individual law enforcement agencies and other organizations. It examined numerous agency CED policies, including policy updates and revisions. PERF also examined numerous media reports on CEDs, both in-print and electronic mediums. Ultimately, PERF drafted a CED glossary of terms and a series of CED guidelines for consideration. Building on the knowledge gained from these activities, PERF—with the support of COPS and BJA—convened a summit attended by international experts and stakeholders to discuss pressing CED-related issues and vet the CED glossary of terms and guidelines for consideration. This report, therefore, represents the culmination of PERF's numerous initiatives on CEDs.

This report describes CEDs and explains how they work. It also relates some of the concerns that arose about the devices, and provides a context on why the field needed guidance. The report summarizes related research and the development of the guidelines and describes the role of the DOJ Less Lethal Technology Symposium. Finally, this report contains the CED glossary of terms and 52 CED guidelines for consideration that were vetted by the expert group.

This report fosters consistency in terminology related to CEDs and less-lethal weapons, as well as assists law enforcement leaders in making more informed policy decisions about CEDs. While additional longitudinal research is being conducted, the CED glossary of terms and the accompanying guidelines for consideration are resources that are available now to help agencies develop clear and consistent policies on CEDs.

Conducted Energy Devices

Describing Conducted Energy Devices

At the time of this publication, the most commonly deployed conducted energy device (CED) is manufactured by Taser International, notably the Taser M26 and X26 models. Taser, developed in the 1970s by Jack Cover, is an acronym for the Thomas A. Swift Electric Rifle. Swift was a fictional character in a 1930s series of science fiction books by Victor Appleton (Sanchez, 2004). Tasers fire darts that attach to (or penetrate) a person's skin or clothing and create an incapacitating electrical current.

The Taser has evolved over the years. In 1999, the company developed the Advanced Taser M26, which was powered by an alkaline battery and used nitrogen cartridges, rather than gunpowder, which was used in earlier models, to fire projectiles. Shaped liked a handgun, the Advanced Taser M26 became popular with law enforcement officers. In 2003, the company introduced the Taser X26, more compact than the Advanced Taser M26 and, according to the company, more efficient. It is powered by a lithium battery and also uses nitrogen cartridges to fire projectiles. These CEDs deliver an electrical current that interferes with the body's neuromuscular system, temporarily incapacitating a targeted person. They are laser-sighted and use cartridges attached to the end of the weapon's barrel (Ederheimer and Fridell, 2005).

The Taser has two modes: "probe" and "touch stun." In the probe mode, the cartridges project, through a set of wires, a pair of barbs (or darts with hooks) that attaches to clothing or penetrates the skin after the Taser is fired, delivering an electrical charge (Association of Chief Police Officers, 2004). When the barbs strike, the electrical current is sent down the wires and through the body between the two barb points. In the touch stun mode, electrical contacts on the Taser are pressed directly onto a person and there is a similar but reduced neuromuscular effect (Donnelly et al, 2002).

Concerns Emerge About CEDs

According to some estimates, CEDs have been adopted by more than 8,000 police and sheriffs' offices across the country. Many law enforcement leaders have touted the devices, citing them as an effective less-lethal option. CEDs have been credited with helping to reduce

injuries and instances of deadly force; however, as deployments of CEDs increased across the United States and abroad, controversy has emerged.

Advocacy organizations raised questions about the devices, claiming they were being misused, overused, and posed serious health risks. Policy issues emerged on a plethora of concerns ranging from placement on the force continuum to activation parameters on at-risk populations such as children, the elderly, persons under the influence of drugs, and pregnant women. Training questions arose, especially about the mandatory exposure of police officers to these devices. Tactical issues surfaced, ranging from holster placement to the practice of activating persons in vehicles. The medical effects of CEDs were—and remain—controversial because some people have died in proximity to a CED activation. Law enforcement executives were confronted with these and other CED issues and determined that deeper examination of them was necessary.

Need for National Guidelines

Any new technology—and in particular, one that has the potential to cause injury and possible death—must be carefully assessed using whatever reliable information is available. That assessment can help law enforcement agencies develop effective policies in their own jurisdictions and at the same time foster accountability by addressing apprehensions of the public. Longitudinal research is necessary—not only on CEDs, but also on how all less-lethal technology and police tactics affect officer and resident safety. While there were a number of longer-term studies on CEDs in progress, police departments needed information quickly so they could develop effective new CED policies—or refine, calibrate, and strengthen current ones.

The lack of available information prompted Amnesty International to call for a moratorium on CEDs, and several local and state legislatures offered legislation to restrict or prohibit the devices. Many law enforcement agencies delayed or cancelled plans to deploy the devices in the field. It quickly became clear that the field needed objective and responsible guidance about these devices, and the failure to have such guidance could limit the availability of this less-lethal tool for law enforcement. The pressing need for standardization and well researched guidelines prompted the development of this report.

The Development of National Guidelines

Overview of Research

Prior to the development of the Police Executive Research Forum (PERF) CED glossary and guidelines, little U.S. research had been made available to law enforcement on CEDs. There were few comprehensive assessments of the operation or effectiveness of the devices. Primarily, many relied on data from the manufacturer, from organizations funded by the manufacturer, media reports, or information from a single jurisdiction. PERF staff, however, conducted an extensive literature review of available information about CEDs. Among the items examined was research conducted by the International Association of Chiefs of Police (IACP), international law enforcement partners, technical research by the U.S. Military, operational data by police departments, reports by media outlets, and studies completed by advocacy organizations.

PERF examined research conducted by the United Kingdom, which had completed an operational trial of CEDs (in this case, Taser brand devices), piloting various models in five British police jurisdictions. The pilot, conducted by the Association of Chief Police Officers (ACPO), concluded that the CED (Taser) was a useful and effective piece of equipment that can help to de-escalate potentially violent situations and reduce harm with more precision than other alternatives. A second report conducted by the United Kingdom was completed in 2005. Entitled *Police Scientific Development Branch: Further Evaluation of the Taser Device*,. the report concluded that the risk of life-threatening or serious injury from the CED was very low.

PERF also examined Canadian research, which included the 2005 report entitled *Review of Conducted Energy Devices* produced by the Canadian Police Research Centre. It examined the medical safety of CEDs and the effect CED use has on police operations. It concluded that there was no definitive research or evidence to establish a causal relationship between CED use and deaths. Furthermore, with proper training the use of a CED can reduce risk of harm to both police officers and suspects.

Other research reviewed included the U.S. Air Force Research Laboratory Human Effects Center on Excellence (HECOE) report entitled *Human Effectiveness and Risk Characterization of the Electromuscular*

Incapacitation Device- A Limited Analysis of the TASER. The 2005 HECOE report concluded that CEDs (Taser) are generally effective for their intended use and the activation of the device does not appear to pose a significant risk to the recipient.

Some local agencies reported operational effectiveness of CEDs. The Miami (Florida) Police Department reported that after it adopted CEDs in 2003, the department experienced no police-involved shootings for 20 consecutive months. During the same period, the Seattle (Washington) Police Department also reported no police-involved shooting deaths after adopting the devices, and Chief Gil Kerlikowske had given some of the credit to CEDs (Castro, 2004). After it began using CEDs, the Phoenix (Arizona) Police Department reported the lowest rate of deadly police shootings in 14 years (Kershaw, 2004). In Portland, Oregon, police found that 25 to 30 percent of the situations in which a CED was used met the criteria for the use of deadly force (Jones, 2004). A report by the Madison (Wisconsin) Police Department concluded that the deployment of CEDs has reduced officers' use of deadly force and has reduced injuries to both officers and suspects (Wahl, 2005).

Information critical of CEDs was also examined. The *Arizona Republic* published a series of articles concerning deaths following the use of a CED. The newspaper conducted a search of autopsy reports, police reports, media reports, and Taser International's own records to identify deaths that occurred after a CED activation. Amnesty International, concerned with the deaths of individuals in the United States and Canada after a CED activation, released a report in 2006 called *Amnesty International's Continued Concerns About Taser Use*. In the report, the group calls for the suspension of CED use until an independent, impartial, and comprehensive inquiry into their effects is conducted.

PERF also reviewed a significant amount of other available information and research. The work on CEDs that had been completed to that point, however, used disparate terms and definitions, and had not been centrally compiled and synthesized. This contributed greatly to the confusion in the field. Also important, none of the previous efforts had identified the current issues surrounding CEDs in the United States, and there was little guidance on CED policy development, independent training, and tactics. PERF embarked on two national studies to fill this void, with the goal of translating the new data and previous research into national guidelines for consideration.

The PERF Surveys

To collect the critical information on CEDs needed to help police leaders make informed policy decisions, staff from PERF's Center on Force & Accountability and PERF's Law Enforcement Center for Survey Research completed two major national surveys of law enforcement organizations. These two studies, a summit of law enforcement experts, and a compilation of research studies were instrumental in producing the CED glossary of terms and guidelines for consideration.[2]

[2] The results of these studies are published in: Ederheimer, Joshua. *Chief Concerns: Strategies for Resolving Conflict and Minimizing Use of Force.* Washington, D.C.; Police Executive Research Forum, 2006.

The first study, conducted in early 2005, was coordinated by Major Mark Warren of the Baltimore County (Maryland) Police Department, who served as a PERF Fellow. It involved 74 participating agencies, most of which used at least 100 CEDs and fully deployed the devices to all officers on patrol. Recognizing that police CED practices were rapidly changing, the study sought to determine the state of the field at the time. While many law enforcement organizations have since updated their policies, the study provided a national snapshot of the field during that period. The information was valuable in developing questions for the second survey and, later, in the development of topics for the guidelines.

The second study was coordinated by Lieutenant Will Johnson of the Arlington (Texas) Police Department, who also served as a PERF Fellow. Completed in October 2005, the study focused on 96 agencies in the United States and examined 118 deaths that had allegedly occurred in proximity to a CED activation. In addition, data were collected from a comparison group of CED incidents where a death did not occur.

These two national surveys helped identify seminal issues related to CEDs, and aided PERF staff in formulating the initial draft of the glossary and guidelines. The information amassed during the course of the surveys—and the analysis of the data obtained—led to the development of several key conclusions that influenced guideline development. For example, the results indicated that multiple and continuous activations of CEDs may increase the risk of death or serious injury, and that there may be a higher risk of death in people under the influence of drugs. Further, the survey reflected that it would be prudent to provide a medical evaluation following all CED activations.

Also, the results indicated that most CED activations were correlated with higher levels of aggression by assailants. The surveys also helped identify practices in the field that influenced guideline development. For training purposes, the number of injuries experienced by officers during training supported the practice of informed voluntary exposure to CEDs. It also became clear that agencies recognized the need for establishing parameters regarding CED activation on at-risk populations such as children, the elderly, and pregnant women. Finally, the data indicated a real need for more attention to the issues related to CED activation on persons operating vehicles, handcuffed persons, and fleeing suspects.

These conclusions represent only a small portion of the findings from the two national surveys. As noted earlier, the complete findings will be published in a separate publication. Nonetheless, the results served as the foundation for developing the draft guidelines and the open dialogue among police executives, authorities on use of force, researchers, and medical doctors who helped finalize them.

DOJ Less Lethal Technology Working Group

The U.S. Department of Justice (DOJ) recognized that CEDs were emerging as a significant issue facing law enforcement. It noted the greater use of CEDs by law enforcement and the consequent increase in questions surrounding their use. Accordingly, the Bureau of Justice Assistance (BJA) and the National Institute of Justice—components of the Office of Justice Programs (OJP) at the DOJ—convened the national Less Lethal Technology Symposium in April 2005 to help centralize CED information and bring contemporary information to the field. The symposium created an opportunity for PERF, other law enforcement associations, local police officials, federal agencies, international partners, and other leaders in the field to share information.

Based on the success of the symposium, the DOJ wanted to assist the profession by institutionalizing a national dialogue and establishing a central component to guide future less-lethal technology efforts. As a result, DOJ created the Less Lethal Technology Working Group (LLTWG).

The LLTWG is led by COPS Director Carl Peed and BJA Director Domingo Herraiz, and is hosted quarterly by the Commission on

Accreditation for Law Enforcement Agencies (CALEA) Executive Director Sylvester Doughtry, Jr., at the CALEA offices in Virginia. The group consists of representatives from local law enforcement agencies, PERF, the IACP, National Sheriffs' Association (NSA), the National Association of Black Law Enforcement Executives (NOBLE), the Police Foundation (PF), the Fraternal Order of Police (FOP), the Major City Chiefs Association (MCC), CALEA, the Major County Sheriffs' Association (MCSA), and the International Association of Directors of Law Enforcement Standards and Training (IADLEST). DOJ partners include the Office of Community Oriented Policing Services (COPS) and several components of the OJP, including: BJA; the Bureau of Justice Statistics (BJS); and the National Institute of Justice (NIJ).

The working group has been successful in bringing together representatives from different agencies and organizations and combining their expertise to create industry consistency and expand the profession's knowledge concerning less-lethal technology. The group creates focus and direction while establishing national priorities for law enforcement on less-lethal technology. Most recently, LLTWG participants gathered information on less-lethal technology for inclusion on the Less Lethal Technology web site supported by the IACP. The web site provides a wide array of information on less-lethal technology that is dynamic and updated frequently. The web site is located at www.less-lethal.org.

The LLTWG also played an essential role in vetting the PERF CED glossary of terms and guidelines for consideration.

PERF's National Summit on CEDs

On October 18–19, 2005, representatives from more than 50 law enforcement agencies, researchers, and subject matter experts met in Houston, Texas to participate in PERF's National Summit on Conducted Energy Devices. Supported by the COPS Office and BJA, the purpose of the meeting was to review and discuss the draft CED glossary of terms and CED guidelines for consideration. The drafts were developed after the nearly 2 years of research and the completion of the two PERF national surveys.

Summit participants represented a cross section of stakeholders—police practitioners of various ranks, authorities on use of force, labor union representatives, medical doctors, and academics—who vetted

the guidelines during the event. The culmination of these efforts was a standardized glossary of CED terms to promote consistency and understanding for policy development, and the formulation of 52 national CED policy guidelines for consideration.

The national summit opened with several presentations that provided both new information and updates to previously established research. This information gave attendees a greater awareness of the CED research completed to date, as well as a factual basis from which many of the draft policy guidelines were developed.

Joshua Ederheimer, director of PERF's Center on Force & Accountability, began the first panel's discussion with a presentation on the work that PERF has conducted. He then introduced the key personnel who had worked on the two studies, Mark Warren and Will Johnson. Highlights of the PERF presentations included data pertinent to issues such as: the critical period between CED activation and deaths that occur in proximity to use; resistance levels that delineate when CED activation is prudent; the impact of the number and duration of CED cycles that are applied to a person; CED use against at-risk populations; how police should respond to a suspect armed with a CED; and tactical considerations on when a CED can be activated.

The next presentations were made by two international experts on CEDs. Superintendent Anthony Bangham of the West Mercia Constabulary and the UK Association of Chief Police Officers (ACPO) provided an update on the state of the field of CED use in the United Kingdom. Steve Palmer, executive director of the Canadian Police Research Centre, provided a similar review of CED research and use in Canada. Subsequently, Dr. Gary Vilke and Dr. Christian Sloane from the University of California San Diego Medical Center spoke about the medical effects of CED use and provided a review of the medical literature on CED activation. The doctors—who also discussed the medical assessment protocols on CED use that they developed with the San Diego Police Department—commented on the draft PERF guidelines concerning CED post-activation response.

Dr. Geoffrey Alpert, professor and chair of the Department of Criminology and Criminal Justice at the University of South Carolina, was the summit's keynote speaker. Dr. Alpert has been conducting research on high-risk police activity for more than 25 years and is considered a leading expert in the field. He discussed better

management of CED use through policy, training, and accountability. Harold Hurtt, chief of the Houston Police Department, was the summit's keynote dinner speaker. Chief Hurtt discussed police leadership and responsibility, and shared his experiences in using CEDs both in Houston and in Phoenix, Arizona, where he had also served as chief of police. As chief in Phoenix, he was one of the first law enforcement executives to introduce CEDs into the field. Currently, the Houston Police Department has deployed more CEDs than any other police department in the world.

During the summit, participants focused on reviewing and fine-tuning the draft guidelines. PERF Executive Director Chuck Wexler moderated a discussion in which each draft guideline was examined. Following spirited discussion and debate where strong opinions were expressed and a variety of viewpoints considered, consensus was achieved and the CED glossary of terms and 52 policy guidelines for consideration were finalized.

Conclusion

There was a critical need to provide information, consistency, and guidance about CEDs to the law enforcement profession. Law enforcement leaders urgently wanted this information to enable them to make purchasing and deployment decisions; develop new CED policies for their organizations; or to refine, calibrate, and strengthen current policies. Their ultimate goal was—and remains—to foster safe encounters between police officers and violent subjects.

The development of the CED glossary and guidelines for consideration helped to bring some order to a field that was experiencing confusion about how to proceed on CED-related issues. The glossary and guidelines resulted from a synthesis of available research and information, and represents a culmination of consensus from different parts of the country and a varied group of stakeholders.

The development and dissemination of the glossary and guidelines are an important first step in addressing law enforcement's needs regarding CEDs. As more information becomes available about the devices, however, refinement and modifications to them will need to occur in the future.

The collective efforts of PERF, DOJ, and their partners helped to address the profession's critical need for information about CEDs. The initial response to the glossary and guidelines has been favorable. Several law enforcement agencies across the nation compared their CED policies with the guidelines, and numerous agencies modified their policies to reflect all or some of the guidelines.

Among the agencies influenced by the guidelines were the Cleveland (Ohio) Police Department; Fremont (California) Police Department; Metro Nashville (Tennessee) Police Department; Minneapolis (Minnesota) Police Department; Mountain View (California) Police Department; Pasadena (California) Police Department; San Jose (California) Police Department; and the California Commission on Peace Officer Standards and Training (POST); among others. In addition to having an impact on the current CED policies of law enforcement agencies, the guidelines influenced the decision to deploy CEDs in at least one police department: the Fort Wayne (Indiana) Police Department.

Additional longitudinal research studies are necessary to achieve a more complete understanding of the effects of CEDs on individuals,[3] especially individuals engaging in at-risk behaviors like illicit drug usage and physical aggression toward police. Law enforcement leaders will need to evaluate and prioritize disparate information to formulate policies and training that effectively serve their officers and their communities. The information presented in this report can assist executives with these challenges and help them make more informed policy decisions about CEDs now. It will be necessary to review and assess these guidelines in the future as new information becomes available and longitudinal studies are completed.

[3] PERF is continuing its efforts to aid the field concerning CED issues. PERF has partnered with the National Sheriffs' Association to examine issues related to the deployment of CEDs in a custodial setting, such as in courtrooms, transport vehicles, jails, and other such environments. The study is supported by the Bureau of Justice Assistance. Further, PERF is involved in other use of force and officer safety studies, and will continue to work with various international partners to keep the field abreast of the most contemporary CED issues.

PERF CED Glossary of Terms

One of the first issues that led to confusion about conducted energy devices (CED) was the disparity of terms used to describe the device. Various organizations used an array of terms to describe the same apparatus (e.g., electronic control weapons, electro-muscular incapacitation devices, conducted energy weapon, etc.). Police agencies also used varied definitions for similar behaviors that subjects exhibited (e.g., the term *passive aggression* may have different meanings for different police agencies). To minimize the confusion in discussing CEDs, PERF staff developed a list of terms and definitions used in relation to CEDs.

PERF staff examined numerous research reports and agency policies to create this glossary of terms. This list was then vetted through the DOJ's Less Lethal Technology Working Group prior to review at PERF's National Summit on Conducted Energy Devices in Houston, Texas, to ensure consensus. The goal of creating these terms is to encourage consistency and strengthen clarity regarding the accompanying national CED guidelines for consideration.

Accidental Discharge
The unintentional firing of a conducted energy device (CED).

Activate
Depressing the trigger of a CED causing a CED to arc or to fire probes.

Active Aggression
A threat or overt act of an assault (through physical or verbal means), coupled with the present ability to carry out the threat or assault, which reasonably indicates that an assault or injury to any person is imminent.

Actively Resisting
Physically evasive movements to defeat an officer's attempt at control, including bracing, tensing, pushing, or verbally signaling an intention to avoid or prevent being taken into or retained in custody.

Aggravated Active Aggression
Deadly force encounter.

Air Cartridge
A replaceable cartridge which uses compressed gases to fire two probes on connecting wires, sending a high voltage/low current signal into a subject.

Applicable Response
Response determined appropriate for the given operational scenario.

Arcing/Arching
Activating a CED without a cartridge.

Automatic External Defibrillator (AED)
An apparatus that monitors the heart of the patient and then automatically administers a controlled electric shock to the chest to restore normal heart rhythm.

Basis Response
Generic responses that describe how people routinely behave as the result of the application of a weapon or technology (or tactic, or procedure) employed against them.

Bodily Injury
Injury to the human body that requires treatment by a doctor or other health professional.

CED Cycle
Duration of a CED electrical discharge following a CED activation.

Central Information Display (CID)
Display of data on the back of a conducted energy device.

Circular Situational Force Model
A circular force training model that promotes continuous critical assessment and evaluation of a force incident in which the level of response is based upon the situation encountered and level of resistance offered by a subject. The situational assessment helps officers determine the appropriate force option, ranging from physical presence to deadly force.

Coincidental Injury
Injuries received in the incident not directly related to CED use (such as baton use, self-inflicted wounds, and gunshot wounds).

Conducted Energy Device (CED)
A weapon primarily designed to disrupt a subject's central nervous system by means of deploying electrical energy sufficient to cause uncontrolled muscle contractions and override an individual's voluntary motor responses.[4]

[4] Conducted Energy Device (CED) is the preferred terminology for the weapon. It has also been referred to as Electro-Muscular Disruption Technology (EMDT); Electro-Muscular Incapacitation device (EMI); Electro Muscular Device (EMD); and Electronic Control Device (ECD).

Confetti Tags
Confetti-like tags expelled from a cartridge of a CED when fired to shoot probes. Each tag contains a serial number unique to the specific cartridge used.

Continuum of Force/Response to Resistance
A training model/philosophy that supports the progressive and reasonable escalation and de-escalation of officer-applied force in proportional response to the actions and level of resistance offered by a subject. The level of response is based upon the situation encountered at the scene and the actions of the subject in response to the officer's commands. Such response may progress from the officer's physical presence at the scene to the application of deadly force.

Crowd Control
The use of police action to stop the activities of persons assembled.

Crowd Management
Observing, monitoring, and facilitating the activities of persons assembled.

Darts
Projectiles that are fired from a CED and penetrate the skin; wires are attached to the probes leading back to the CED.

Dart Placement
Point of entry for a probe on a person's body.

Dart (Barb) Removal
The act of removing a probe from a person's body or clothing.

Defensive Resistance
Physical actions that attempt to prevent officer's control including flight or attempt to flee, but do not involve attempts to harm the officer.

Deployment
Sending CED devices into the field with law enforcement officers.

Deadly Force
Any tactic or use of force that has an intended, natural, and probable consequence of serious physical injury or death.

Discharge
Barbs fired at a subject.

Drive Stun
To stun a subject with a CED by making direct contact with the body after a CED cartridge has been expended or removed for pain compliance.

Duration
The aggregate period of time that CED shocks are activated.

Electrocardiogram Monitor (ECG/EKG)
The machine that measures and records the electrical activity of the heart.

Electromuscular Disruption/Incapacitation (EMD)(EMI)
Effect CED has on the body. Overrides the brain's communication with the body and prevents the voluntary control over the muscles.

Environmental Factors
Factors such as wind speed, temperature, humidity, lighting, precipitation, terrain, etc.

Excessive Force
The application of an unreasonable amount (or force too long applied) of force in a given incident based on the totality of the circumstances.

Excited Delirium
State of extreme mental and physiological excitement, characterized by extreme agitation, hyperthermia, epiphoria, hostility, exceptional strength, and endurance without fatigue.

Exigent Circumstances
Circumstances that would cause a reasonable person to believe that prompt action is necessary to prevent physical harm to civilians and/or officers.

Firing
Discharging CED darts at a person.

Fleeing
An active attempt by a person to avoid apprehension by a law enforcement officer through evasive actions while attempting to leave the scene.

Group Cohesion
The ability to disrupt or control a group of individuals by either restricting or enhancing their organization, cooperation, and density.

Initial Basic Operator Training
The first basic CED training provided to officers prior to issuance of a CED.

Intentional Discharge Investigation
An investigation of the circumstances surrounding the firing or drive-stunning of a CED.

Intermediate Weapon
A weapon usage category situated between a *verbal command* and *lethal force* on a traditional force continuum.

Laser Pointing (Red Dot)
Unholstering and pointing a CED at a person and activating the device's laser dot.

Less Lethal
A concept of planning and force application that meets an operational or tactical objective, with less potential for causing death or serious injury than conventional, more lethal police tactics.

Less-Lethal Weapon
Any apprehension or restraint device that, when used as designed and intended, has less potential for causing death or serious injury than conventional police lethal weapons.

Measures of Effectiveness
Measures indicating the degree to which a target response satisfies a requirement within an operational context.

Measures of Response
Measures indicating how a target reacts to a system's effects.

Objective Reasonableness
Reasonableness of a particular use of force must be judged from the perspective of a reasonable officer on the scene in light of the facts and circumstances confronting the officer.

Onset Time
(Ideally equal to zero) The period between the deployment of a less-lethal weapon system (or tactic, technique, or procedure) and the point when the magnitude of the desired effect attains some particular threshold.

Operational Effectiveness
That level of force necessary to achieve compliance, safeguard persons and property, or prevent injury.

Operational Safety
That degree of risk determined to be acceptable in order to accomplish a mission without unduly endangering officers, bystanders, or suspects.

Passive Resistance
Physical actions that do not prevent the officer's attempt to control, for example, a person who remains in a limp, prone position, passive demonstrators, etc.

Pointing/Aiming
Unholstering and pointing a CED at a person.

Post-Activation Investigation
An investigation of the circumstances surrounding the intentional or unintentional firing of probes or drive-stunning of a CED.

Primary Injury
(1st Order Effect)
Immediate or delayed consequences of a CED resulting directly from an electrical current flow in the body.

Probe Spread
The amount of distance between probes fired from a CED (e.g., approximately 1 foot spread for every 7 feet of travel distance).

Proximity Death
The death of a person that occurred in proximity to the use of a conducted energy device (usually within 24 hours).

Psychological Intimidation
Nonverbal cues in attitude, appearance, demeanor, posture, or physical readiness that indicate an unwillingness to cooperate, pre-assaultive posturing, or a threat.

Physical Weapon Characteristics
The intrinsic qualities of a weapon including dimensional design values associated with a weapon (weight, caliber, size, power requirement, shelf life, etc.).

Secondary Injury
(2nd Order Effect)
Physical trauma indirectly associated with CED use (e.g., injuries from falls).

Sensitive Areas
A person's head, neck, genital area, and a female's breast areas.

Serious Bodily Injury
Bodily injury that, either at the time of the actual injury or at a later time, involves a substantial risk of death, a substantial risk of serious permanent disfigurement, a substantial risk of protracted loss or impairment of the function of any part or organ of the body, or breaks, fractures, or burns of the second or third degree.

Spark Test
Noncontact testing of a CED by arcing it to ensure it is in proper working order.

Standard CED Cycle
A 5-second electrical discharge occurring when a CED trigger is pressed and released. The standard 5-second cycle may be shortened by turning the CED off. (Note: If a CED trigger is pressed and held beyond 5 seconds, the CED will continue to deliver an electrical discharge until the trigger is released.)

Substantial Investigation
An extensive investigation into the use of a conducted energy device that is conducted by investigators outside the chain of command of the firing officer.

Target Recovery
(Ideally, full recovery immediately at the end of the desired duration)
The period when the target response falls below a particular threshold and a full recovery of unimpaired functionality is desired in an operationally meaningful context.

Unintentional Discharge
The unintentional firing of a CED (includes discharges caused by involuntary muscle contraction and mechanical malfunction).

Ventricular Fibrillation (VF)
Ventricular fibrillation is a condition in which the heart's electrical activity becomes disordered.

Verbal Non-Compliance
Verbal responses indicating an unwillingness to comply with an officer's directions.

PERF CED Guidelines for Consideration

These 52 CED guidelines for consideration are presented with the understanding that many use-of-force situations can change rapidly and may require law enforcement officers to make quick decisions about force options. It is impossible to anticipate every possible use-of-force situation or circumstance that may occur and, in all cases, officers need to rely on their training, judgment, and instincts. The considerations noted below, however, can help law enforcement officers make more informed judgments about CEDs and how and when to use CEDs to protect themselves and the public.

While every effort was made to consider the views of all contributors and the best thinking on the vast amount of information received, the resulting PERF guidelines do not necessarily reflect the individual views of every stakeholder involved in the development process, nor the views of the U.S. Department of Justice.

1. CEDs should only be used against persons who are actively resisting or exhibiting active aggression, or to prevent individuals from harming themselves or others. CEDs should not be used against a passive suspect.

2. No more than one officer at a time should activate a CED against a person.

3. When activating a CED, law enforcement officers should use it for one standard cycle and stop to evaluate the situation (a standard cycle is five seconds). If subsequent cycles are necessary, agency policy should restrict the number and duration of those cycles to the minimum activations necessary to place the subject in custody.

4. Training protocols should emphasize that multiple activations and continuous cycling of a CED appear to increase the risk of death or serious injury and should be avoided where practical.

5. Training should include recognizing the limitations of CED activation and being prepared to transition to other force options as needed.

6. That a subject is fleeing should not be the sole justification for police use of a CED. Severity of offense and other circumstances should be considered before officers' use of a CED on the fleeing subject.

7. CEDs should not generally be used against pregnant women, elderly persons, young children, and visibly frail persons unless exigent circumstances exist.

8. CEDs should not be used on handcuffed persons unless they are actively resisting or exhibiting active aggression, and/or to prevent individuals from harming themselves or others.

9. CEDs should not generally be used when a subject is in a location where a fall may cause substantial injury or death.

10. When a subject is armed with a CED and attacks or threatens to attack a police officer, the officer may defend himself or herself to avoid becoming incapacitated and risking the possibility that the subject could gain control of the officer's firearm. When possible, officers should attempt to move outside the device's range (approximately 21 feet) and seek cover, as well as request backup officers to mitigate the danger.

11. When possible, emergency medical personnel should be notified when officers respond to calls for service in which it is anticipated that a CED may be activated against a person.

12. Officers should avoid firing darts at a subject's head, neck, and genitalia.

13. All persons who have been exposed to a CED activation should receive a medical evaluation. Agencies shall consult with local medical personnel to develop appropriate police-medical protocols.

14. All persons who have been subjected to a CED activation should be monitored regularly while in police custody, even if they received medical care.

15. CED darts should be treated as a biohazard. Officers should not generally remove CED darts from a subject that have penetrated the skin unless they have been trained to do so. Agencies should coordinate with medical personnel to develop training for such removal. Only medical personnel should remove darts that have penetrated a person's sensitive areas.

16. Following a CED activation, officers should use a restraint technique that does not impair respiration.

17. CEDs should not be used in the known presence of combustible vapors and liquids or other flammable substances including but not limited to alcohol-based Oleoresin Capsicum (O.C.) Spray carriers. Agencies utilizing both CEDs and O.C. Spray should use a water-based spray.

18. Agencies should create stand-alone policies and training curriculum for CEDs and all less-lethal weapons, and ensure that they are integrated with the department's overall use-of-force policy.

19. Agencies should partner with adjacent jurisdictions and enter into a Memorandum of Understanding to develop joint CED policies and protocols. This should include addressing nonalcoholic O.C. Spray carriers. Agencies should also establish multijurisdictional CED training, collaboration, and policy.

20. If officers' privately owned CEDs are permitted to be used on duty, policy should dictate specifications, regulations, qualifications, etc. The devices should be registered with the department.

21. The CED "Probe Mode" should be the primary setting option, with "Drive Stun Mode" generally used as a secondary option.

22. CEDs should be regulated while officers are off duty under rules similar to service firearms (including storage, transportation, use, etc.).

23. CEDs should not be used against suspects in physical control of a vehicle in motion including automobiles, trucks, motorcycles, ATVs, bicycles, and scooters unless exigent circumstances exist.

24. The use of brightly colored CEDs (e.g., yellow) reduces the risk of escalating a force situation because they are plainly visible and thus decrease the possibility that a secondary unit mistakes the CED for a firearm (sympathetic fire). Note that specialized units (e.g., SWAT Units) may want dark-colored CEDs for tactical concealment purposes.

25. CEDs should be maintained in a holster on an officer's weak (support) side to avoid the accidental drawing and/or firing of an officer's sidearm.

26. Officers should be trained that the TASER™ CED's optimum range is 15 feet.[5]

27. Auxiliary/Reserve officers can be armed with CEDs provided they receive all mandated training and maintain all requalification requirements. Training and local statutes may dictate policy.

28. A warning should be given to a person prior to activating the CED unless to do so would place any other person at risk.

29. When applicable, an announcement should be made to other officers on the scene that a CED is going to be activated.

30. A supervisor should respond to all incident scenes where a CED was activated.

31. A supervisor should conduct an initial review of a CED activation.

32. Every instance of CED use, including an accidental discharge, should be accounted for in a use-of-force report.

33. Agencies should consider initiating force investigations outside the chain of command when any of the following factors are involved:

    a. A subject experiences death or serious injury.
    b. A person experiences prolonged CED activation.
    c. The CED appears to have been used in a punitive or abusive manner.
    d. There appears to be a substantial deviation from training.
    e. A person in an at-risk category has been subjected to activation (e.g., young children; persons who are elderly/frail, pregnant women, and any other activation as determined by a supervisor).

34. When possible, supervisors and backup officers should anticipate on-scene officers' use of CEDs by responding to calls for service that have a high propensity for arrest and/or use of a CED.

[5] Association of Chief Police Officers, 2004. Independent Evaluation of the Operational Trial of TASER.™

35. Every substantial investigation (and when possible every preliminary investigation) should include:

    a. Location and interview of witnesses (including other officers).
    b. Photographs of subject and officer injuries.
    c. Photographs of cartridges/darts.
    d. Collection of CED cartridges, darts/prongs, data downloads, car video, confetti ID tags.
    e. Copies of the device data download.
    f. Other information as indicated in guideline #45.

36. Police leaders should be aware that CED download data may be unreliable. Police leaders and investigators should be able to articulate the difference between the actual duration of a CED activation on a person and the total time of discharge registered on a CED device.

37. CED activations should be tracked in the department's early intervention system (EIS).

38. The department should periodically conduct random audits of CED data downloads and reconcile use-of-force reports with recorded activations. Departments should take necessary action as appropriate when inconsistencies are detected.

39. Audits should be conducted to ensure that all officers who carry CEDs have attended initial and recertification training.

40. Departments should not solely rely on training curriculum provided by a CED manufacturer. Agencies should ensure that manufacturers' training does not contradict their use-of-force policies and values. Agencies should ensure that their CED curriculum is integrated into their overall use-of-force systems.

41. CED recertification should occur at least annually and consist of physical competency and device retention, changes in agency policy, technology changes, and reviews of local and national trends in CED use.

42. Exposure to CED activation in training should be voluntary; all officers agreeing to be subjected to a CED activation should be apprised of risks associated with exposure to a CED activation.

43. Supervisors and command staff should receive CED awareness training so they can make educated decisions about the administrative investigations they review.

44. Statistics should be maintained to identify CED trends and deployment concerns. Agencies may include display and arcing of weapons to measure prevention/deterrence effectiveness. CED statistics should be constantly analyzed and made publicly available.

45. The following statistical information should be included when collecting information about CED use:

    a. Date, time, location of incident.
    b. The use of the laser dot or display of the CED that deterred a subject and gained compliance.
    c. Identifying and descriptive information of the suspect (including membership in an at-risk population), all officers firing CEDs, all officer witnesses, and all other witnesses.
    d. The type and brand of CED used.
    e. The number of CED cycles, the duration of each cycle, the duration between cycles and the duration that the subject was actually activated.
    f. Level of aggression encountered.
    g. Any weapons possessed by the suspect.
    h. The type of crime/incident the subject was involved in.
    i. Determination of whether deadly force would have been justified.
    j. The type of clothing worn by the subject.
    k. The range at which the CED was used.
    l. The type of mode used (probe or drive stun).
    m. The point of impact of probes on a subject in probe mode.
    n. The point of impact on a subject in drive stun mode.
    o. Location of missed probe(s).
    p. Terrain and weather conditions during CED use.
    q. Lighting conditions.
    r. The type of cartridge used.
    s. Officer suspicion that subject was under the influence of drugs (specify if available).
    t. Medical care provided to the subject.
    u. Any injuries incurred by an officer or subject.

46. Law enforcement agencies should conduct neighborhood programs that focus on CED awareness training. CED training should be part of any citizen's training academy program.

47. The agency's Public Information Officer should receive extensive training on CEDs in order to better inform the media and the public about the devices. Members of the media should be briefed on the department's policies and use of CEDs.

48. CED awareness should extend to law enforcement partners such as local medical personnel, citizen review boards, medical examiners, mental health professionals, judges, and local prosecutors.

49. CEDs can be effective against aggressive animals. Policies should indicate whether use against animals is permitted.

50. Officers should be aware that there is a higher risk of sudden death in people under the influence of drugs and/or symptoms associated with excited delirium.

51. CED cartridges with longer barbs may be more effective in extremely cold climates.

52. Agencies should be aware that CED cartridges have experienced firing problems in extremely cold weather.

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About the COPS Office

The Office of Community Oriented Policing Services (the COPS Office) was created in 1994 to advance the practice of community policing in state, local, and tribal law enforcement jurisdictions of all sizes across the United States.

Since 1994, COPS has invested more than $11.9 billion to add community policing officers to the nation's streets, enhance crime-fighting technology, support crime-prevention initiatives, and provide training and technical assistance. COPS funding has supported community policing innovation conferences, the development of best practices, pilot community policing programs, and applied research and evaluation initiatives that make possible the growing body of substantive knowledge covering all aspects of community policing.

COPS responds to emerging law enforcement needs by working in partnership with law enforcement departments to enhance police integrity, promote safe schools, combat the methamphetamine drug problem, and support homeland security efforts through proven community policing strategies. Most recently, COPS implemented grant programs to develop interoperable voice and data communications networks among emergency response agencies.

The COPS Office created a national network of Regional Community Policing Institutes (RCPIs) to provide a wide range of training opportunities to state and local law enforcement, elected officials, and community leaders. Recently, the RCPIs have focused on developing and delivering homeland security training.

COPS also develops and offers a variety of publications, CDs, videos, and other materials that detail specific issues facing law enforcement, offer best practices for handling problems, and provide high-level strategic considerations on issues of important concern. In addition, the COPS Office has hosted live, national webcasts/satellite broadcasts in which panels of experts discuss current issues such as gangs, meth, and police recruitment, hiring, and retention, and which serve as useful tools in opening or furthering community safety dialogues.

To learn more about the COPS Office and its resources, visit www.cops.usdoj.gov.

About the Bureau of Justice Assistance

The Bureau of Justice Assistance (BJA), Office of Justice Programs, U.S. Department of Justice, supports law enforcement, courts, corrections, treatment, victim services, technology, and prevention initiatives that strengthen the nation's criminal justice system. BJA provides leadership, services, and funding to America's communities by emphasizing local control; building relationships in the field; developing collaborations and partnerships; promoting capacity building through planning; streamlining the administration of grants; increasing training and technical assistance; creating accountability of projects; encouraging innovation; and ultimately communicating the value of justice efforts to decision makers at every level.

To learn more about BJA, visit www.ojp.usdoj.gov/BJA.

About the Police Executive Research Forum

The Police Executive Research Forum (PERF) is a professional organization of progressive chief executives of city, county, and state law enforcement agencies who collectively serve more than 50 percent of the U.S. population. In addition, PERF has established formal relationships with international police executives and law enforcement organizations around the globe. Membership includes police chiefs, superintendents, sheriffs, state police directors, university police chiefs, public safety directors, and other law enforcement professionals. Established in 1976 as a nonprofit organization, PERF is unique in its commitment to the application of research in policing and the importance of higher education for police executives. Besides a commitment to police innovation and professionalism, PERF members must hold a 4-year college degree.

PERF continues to conduct some of the most innovative police and criminal justice research and provides a wide variety of management and technical assistance programs to police agencies throughout the world. PERF's groundbreaking work on community and problem-oriented policing, racial profiling, use of force, less-lethal weapons, and crime-reduction strategies has earned it a prominent position in the police community. PERF is one of the founding agencies of the Community Policing Consortium and the Commission on Accreditation for Law Enforcement Agencies (CALEA). PERF continues to work toward increased professionalism and excellence in the field through its publications and training programs. PERF sponsors and conducts the Senior Management Institute for Police (SMIP), which provides comprehensive professional management and executive development training to police chiefs and law enforcement executives. Convened annually in Boston, SMIP instructors include professors from leading universities, but primarily from Harvard University's Kennedy School of Government.

PERF's success is built on the active involvement of its members. The organization also has types of membership that allow the organization to benefit from the diverse views of criminal justice researchers, law enforcement professionals of all ranks, and others committed to advancing policing services to all communities. As a nonprofit organization, PERF is committed to the application of research in policing and to promoting innovation that will enhance the quality of

life in our communities. PERF's objective is to improve the delivery of police services and the effectiveness of crime control through the exercise of strong national leadership, the public debate of criminal justice issues, the development of a body of research about policing, and the provision of vital management services to all police agencies.

PERF has developed and published some of the leading literature in the law enforcement field. Recently, PERF released two publications on contemporary law enforcement issues. The books—*Chief Concerns: Exploring the Challenges of Police Use of Force and Police Management of Mass Demonstrations: Identifying Issues and Successful Approaches*—serve as practical guides to help police leaders make more informed decisions. In addition, PERF has released a series of white papers on terrorism in the local law enforcement context, *Protecting Your Community from Terrorism: Strategies for Local Law Enforcement*, which examined such issues as local-federal partnerships, working with diverse communities, bioterrorism, and intelligence sharing. Other recent publications include *Managing a Multijurisdictional Case: Identifying Lessons Learned from the Sniper Investigation (2004)* and *Community Policing: The Past, Present and Future (2004)*. Other PERF titles include the only authoritative work on racial profiling, *Racial Profiling: A Principled Response (2001)*, *Recognizing Value in Policing (2002*); *The Police Response to Mental Illness (2002)*; *Citizen Review Resource Manual (1995)*, *Managing Innovation in Policing (1995)*; *Crime Analysis Through Computer Mapping (1995)*; And Justice For All: *Understanding and Controlling Police Use of Deadly Force (1995)*; *Why Police Organizations Change: A Study of Community-Oriented Policing (1996)*; *Police Antidrug Tactics: New Approaches and Applications; Under Fire: Gun Buy-Backs, Exchanges and Amnesty Programs (1996)*. PERF publications are used for training, promotion exams, and to inform police professionals about innovative approaches to community problems. The hallmark of the program is translating the latest research and thinking about a topic into police practices that can be tailored to the unique needs of a jurisdiction.

To learn more about PERF visit www.policeforum.org.

About the PERF Center on Force & Accountability

Created in April 2005, the PERF Center on Force & Accountability (CFA) is a significant resource for PERF members and others in law enforcement, and serves as the principal clearinghouse for ideas, strategies, and data that will address problems related to police use of force and accountability. Ultimately, the CFA provides law enforcement executives with information and strategies that will help them make more informed decisions as they serve their communities.

The PERF Center on Force & Accountability has four primary objectives:

1. Identify emerging trends and seek out effective new strategies.
2. Conduct groundbreaking research.
3. Provide high-quality technical assistance to law enforcement agencies.
4. Create a central resource for information regarding use of force and police accountability issues.

To that end, the CFA is continually developing competencies in several specific areas. For use of force, CFA competencies include community outreach and accountability; equipment and weapons; investigations; police canines; policy development; review boards; tactics; technology; training; trends and identification of promising approaches; statistics, tracking, and analysis; vehicle pursuits; and violence against law enforcement officers. As it relates to police accountability, CFA competencies include community involvement; consent decrees/memoranda of accountability; discipline and conduct review; early intervention systems and processes; equal employment opportunities; internal investigations; law enforcement ethics; misconduct statistics, tracking, and analysis; policy development; technology; training; and trends and identification of promising approaches.

The CFA released national guidelines for conducted energy devices that have been embraced by law enforcement agencies throughout the country. Further, the CFA completed two guides on early intervention systems to help agencies better manage their human resources. The CFA also provided technical assistance to municipalities seeking to assess their use-of-force and disciplinary systems within their police departments. The CFA also examined critical use-of-force issues in a

2005 publication entitled *Chief Concerns: Exploring the Challenges of Police Use of Force*, and a 2006 publication entitled *Chief Concerns: Strategies for Resolving Conflict and Minimizing Use of Force*.

To learn more about PERF and the Center on Force & Accountability visit www.policeforum.org.

Resource Links

www.less-lethal.org	Less-lethal.org is a source of information on less-lethal technology used by law enforcement agencies. The web site content is dynamic, with updates provided on a periodic basis. The web site is funded through a cooperative agreement with the International Association of Chiefs of Police and the Office of Community Oriented Policing Services.
www.ojp.usdoj.gov/bja	Bureau of Justice Assistance
www.calea.org	Commission on Accreditation for Law Enforcement Agencies
www.fop.net	Fraternal Order of Police
www.theiacp.org	The International Association of Chiefs of Police
www.ojp.usdoj.gov/nij	National Institute of Justice
www.noblenational.org	The National Organization of Black Law Enforcement Executives
www.sheriffs.org	The National Sheriffs' Association
www.cops.usdoj.gov	Office of Community Oriented Policing Services
www.policeforum.org	Police Executive Research Forum
www.policefoundation.org	Police Foundation

Appendix A

Participants in the National Summit on CEDs (Houston, Texas)

Commander Randy Aleman (Waco Police Department)
Sergeant Robert Allen (Nashville Police Department)
Professor Geoff Alpert (University of South Carolina)
Deputy Chief Mike Ault (Las Vegas Metro Police Department)
Research Assistant Nathan Ballard (Police Executive Research Forum)
Superintendent Anthony Bangham (West Mercia Police, UK, Association of Chief Police Officers)
Lieutenant Jennifer Beidle (Pittsburgh Bureau of Police)
Executive Director Gary Bullard (International Association of Directors of Law Enforcement Standards and Training)
Captain Chris Burbank (Salt Lake City Police Department)
Assistant Chief of Police Adam Burden (Miami Police Department)
Lieutenant Joseph Buttitta (Houston Police Department)
Deputy Director Pamela Cammarata (Office of Community Oriented Policing Services)
Captain Mike Campagna (Charlotte-Mecklenburg Police Department)
Social Science Analyst Brett Chapman (National Institute of Justice)
Inspector Francisco Colon (Providence Police Department)
Research Associate James Cronin (PERF Center on Force & Accountability)
Captain Frank DeMario (Palm Beach County Sheriff's Office)
Assistant Chief of Police Michael A. Dirden (Houston Police Department)
Colonel Jonathan Drummond (U.S. Air Force)
Deputy Chief Dan Dugan (Chicago Police Department)
Director Joshua Ederheimer (PERF Center on Force & Accountability)
Senior Advisor for Law Enforcement Steve Edwards (Bureau of Justice Assistance)
Chief of the Special Operations Division Robert W. Elder (Bureau of Alcohol, Tobacco, Firearms and Explosives)
Officer Fred Farris (Lenexa [Kansas] Police Department)
Captain Paul Fields (Tulsa Police Department)
Professor Lorie Fridell (University of South Florida)
National Sergeant-at-Arms Frank Gale (Fraternal Order of Police)
Captain James Gieseke (St. Louis Police Department)
Lieutenant David Gillespie (Montgomery County Police Department)
Corporal William Gleason (Prince George's County Police Department)
Executive Director John Gnagey (National Tactical Officers Association)
Captain Alan Goldberg (Montgomery County Police Department)

Major Bernie Gonzalez (Miami-Dade Police Department)
Captain Michael Hagar (Nashville Police Department)
Deputy Tom Hammond (Tuscaloosa County Sheriff's Office)
Commander Charles "Sid" Heal (Los Angeles County Sheriff's Office)
Director Domingo Herraiz (Bureau of Justice Assistance)
Lieutenant Christopher Hildreth (Minneapolis Police Department)
Captain Steven Hougland (Orange County Sheriff's Office)
Chief Harold Hurtt (Houston Police Department)
Major Steve Ijames (Springfield [Missouri] Police Department)
Lieutenant Will Johnson (Arlington Police Department)
Lieutenant David Kelly (Phoenix Police Department)
Commander Paul Kennedy (Providence Police Department)
Lieutenant Gary Kirby (San Jose Police Department)
Executive Deputy Chief Patricia Kneblick (Fort Worth Police Department)
Sergeant Dik Kushdilian (Denver Police Department)
Lieutenant Boyd Long (San Diego Police Department)
Director Phil Lynn (International Association of Chiefs of Police)
Sergeant James MacGillis (Milwaukee Police Department)
Assistant Chief of Police Raymond Martinez (Miami Beach Police Department)
Director Andrew Mazzarra (Penn State Applied Research Lab)
Executive Assistant Chief Charles A. McClelland (Houston Police Department)
Captain Steven Melaragno (Providence Police Department)
President Robert Mercado (Pasadena Police Department)
Captain Greg Meyer (Los Angeles Police Department)
Chief Albert Najera (Sacramento Police Department)
Deputy Chief Vincent Ortega (Kansas City Police Department)
Executive Director Steve Palmer (Canadian Police Research Centre)
Director Robert Parker (Miami-Dade Police Department)
Captain Brett Patterson (West Palm Beach Police Department)
Director Carl Peed (Office of Community Oriented Policing Services)
Deputy Anthony Pulitano (Broward County Police Department)
Captain John Reed (Louisville Metro Police Department)
Assistant Chief of Police Winston Robinson (Washington, D.C., Metropolitan Police Department)
Deputy Inspector Anna Ruzinski (Milwaukee Police Department)
Superintendent Wes Ryan (Toronto Police Service)
Sheriff Ted Sexton (Tuscaloosa County Sheriff's Office; President, National Sheriffs' Association)
Chief Floyd Simpson (Dallas Police Department)
Dr. Christian Sloane (University of California San Diego Medical Center)

Attorney Robert Spence (Tuscaloosa County Sheriff's Office)
Commander Rod Uyeda (Pasadena Police Department)
Dr. Gary Vilke (University of California San Diego Medical Center)
Policy Planner Mimi Walsh (Seattle Police Department)
Major Mark Warren (Baltimore County Police Department)
Executive Director Chuck Wexler (Police Executive Research Forum)
Sergeant Don Whitson (National Tactical Officers Association)
Sergeant Steven Wickelgren (Minneapolis Police Department)

Appendix B

DOJ's Less Lethal Technology Working Group Members

Director Joseph Akers (National Organization of Black Law Enforcement Executives)
Consultant Carolyn Allen (Office of Justice Programs)
Project Manager Albert Arena (International Association of Chiefs of Police)
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Senior Advisor for Law Enforcement Steven Edwards (Bureau of Justice Assistance)
Executive Director Thomas N. Faust (National Sheriffs' Association)
Executive Director Thomas C. Frazier (Major City Chiefs Association and Frazier Group, LLC)
Curriculum Specialist William Fink (Northern Virginia Criminal Justice Training Academy)
Lieutenant David Gillespie (Montgomery County Police Department)
Captain Alan Goldberg (Montgomery County Police Department)
Director Earl Hamilton (Police Foundation)
Project Manager William Harrison (Community Policing Consortium)
Director Domingo Herraiz (Bureau of Justice Assistance)
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Senior Intergovernmental and Public Liaison Linda Mansour (Office of Justice Programs)
Assistant Director John Morgan (National Institute of Justice)
Administrator David Paulson (International Association of Chiefs of Police)
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Chief MaryAnn Viverette (Gaithersburg Police Department and President, International Association of Chiefs of Police)
Executive Director Chuck Wexler (Police Executive Research Forum)
President Hubert Williams (Police Foundation)
Director Fred Wilson (National Sheriffs' Association)
Executive Director Joseph Wolfinger (Major County Sheriffs' Association)

For More Information:

U.S. Department of Justice
Office of Community Oriented Policing Services
1100 Vermont Avenue, N.W.
Washington, DC 20530

To obtain details on COPS programs, call the
COPS Office Response Center at 800.421.6770

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Visit COPS Online at www.cops.usdoj.gov