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Committee on Criminal Justice

Senator Stephen R. Wise, Chair

DART-FIRING STUN GUNS

SUMMARY

The prevalence of the deployment of dart-firing stun guns as another "tool on the belt" of law enforcement officers has brought several issues into the forefront of public opinion and legislative concern. Stun guns are used by 7,000 of the 18,000 law enforcement agencies in the country; 240 in Florida. No less than 5 bills related to stun guns were filed for consideration in the Florida Senate during the 2005 Legislative Session.

Our state does not regulate sales to private citizens and current law recognizes the device as a self-defense weapon that citizens are not prohibited from carrying. Law enforcement throughout the state has worked toward perfecting departmental "best practices" policies applicable to the device. Agencies have taken reports of deaths linked to the device seriously, and have taken steps to incorporate citizen concerns and recent scientific or medical information into consideration in modifying policies.

The facts, at least at this point, seem to eliminate dart-firing stun guns as the direct cause of death in all but one case. There does seem to be a link, however, between certain variables, including the device, in the cases where death occurs soon after stun gun application. In addition to the stun gun, these include multiple stun gun applications, amphetamine ingestion, and/or a syndrome called excited delirium.

Staff recommends that the use and safety of Electronic Control Devices be monitored. Law enforcement agencies are aware of the issues that concern the Legislature and the citizens of Florida, and are creating and implementing use policies that take these concerns, as well as the scientific research, into consideration. Staff suggests that law enforcement agencies are likewise sensitive to the need for standards that evolve as new, verifiable scientific information becomes available, particularly with regard to ECDs.

As reliable scientific evidence becomes available, there is every indication that Florida law enforcement will continue to modify agency policies, as they have begun to do in the recent past.

BACKGROUND

The use of dart-firing stun guns and their effects on the people who are stunned by them has recently been a frequent topic of discussion in the media, among law enforcement officers and administrators, and within the scientific and medical professions. Citizens in communities where the devices are deployed by their local law enforcement have voiced concerns and have been provided a forum, in many instances, within which to discuss those concerns with law enforcement.

Policy makers at all levels have taken the concerns of citizens quite seriously. During the 2005 Legislative Session no less than 5 bills related to dart-firing stun guns were filed for consideration in the Senate. This resulted in meaningful discussion between state policy makers and law enforcement. It was quite likely instrumental in helping to focus the law enforcement community's on-going efforts at drafting or fine-tuning departmental policies on the use of the dart-firing stun gun. In communities throughout the state, local law enforcement has sought input from the local citizens, in grand jury recommendations, Town Meetings, commissions, and special study or advisory groups.

During the process of information exchange, the questions that have arisen and have been discussed address matters such as:

- when it is appropriate or advisable for law enforcement officers to use the device;
- what are the potential physical effects of the device, beyond the momentary incapacitation it produces;
- can the dart-firing stun gun be linked, directly or indirectly, to the in-custody deaths of people who have been stunned;

- what, if any, law enforcement training curriculum modifications should be made as new information about the devices becomes available; and
- should the purchase, possession and use of dart-firing stun guns by non-law enforcement citizens be regulated, and if so, to what degree.

This report contains discussion of these questions. It should be noted, however, that as of the time of the writing of this report, this is an area that continues to evolve, and the only sure-fire answer is that there are no sure-fire answers.

METHODOLOGY

Staff conducted a review of scientific and medical reports on the effects of dart-firing stun guns as well as news accounts of law enforcement/citizen encounters involving the use of the devices. Legal research was gathered and analyzed. Staff attended a workshop of law enforcement officers and legal staff that has resulted in a Model Policy on dart-firing stun guns.

FINDINGS

Definition and Description of the Dart-firing Stun Gun

Section 790.001(15), F.S., defines the “remote stun gun” as “any nonlethal device with a tethered range not to exceed 16 feet and which shall utilize an identification and tracking system which, upon use, disperses coded material traceable to the purchaser through records kept by the manufacturer on all remote stun guns and all individual cartridges sold which information shall be made available to any law enforcement agency upon request.” s. 790.001(15), F.S.

The “electric weapon or device” is defined as “any device which, through the application or use of electrical current, is designed, redesigned, used, or intended to be used for offensive or defensive purposes, the destruction of life, or the infliction of injury.” s. 790.001(14), F.S.

It should be noted that the devices defined above are generally not firearms, by statutory definition. A firearm is a firearm because it expels a projectile “by the action of an explosive.” s. 790.001(6), F.S. Although the predecessor models did use an explosive, the most widely-distributed modern models of dart-firing stun guns use nitrogen cartridges to launch the tethered probes. *Electronic Control Weapons,*

Concepts and Issues Paper; IACP National Law Enforcement Policy Center; 1996, rev. Jan.2005.

In addition to firing tethered probes, the dart-firing stun gun can be used in a “touch stun” mode, where the probes are not launched, but rather, the device itself actually makes contact with the subject being stunned. This “touch stun” application is the sole method of delivering the electrical current in the precursor to dart-firing stun guns, the “electric weapons.” For purposes of this report, we will be limiting the discussion to those stun guns that are capable of firing tethered probes, or “darts.”

The dart-firing stun gun is referred to by many names, including “electro-muscular disruption technology,” “electronic control weapons” or “electronic control devices” (hereinafter referred to as ECDs). There are several manufacturers of these and similar devices. Among the manufacturers is Stinger Systems, Inc., which moved its headquarters from Charlotte, North Carolina to Tampa this summer. It plans to introduce the STINGER, a four-dart stun gun to law enforcement agencies this year. *St. Petersburg Times,* Robert Trigaux, Business Column, August 5, 2005. Law Enforcement Associates is another company that manufactures the devices.

The company that has dominated the market, certainly among the law enforcement community, is Taser International, based in Scottsdale, Arizona. The TASER, the brand name of the ECD manufactured by Taser International, is a hand-held device that looks very much like a semi-automatic handgun. It delivers an electric shock via two darts that remain tethered to the hand-held unit after firing. The darts generally imbed in the skin of the subject, although the device also delivers the electrical current through clothing. As previously noted, the device can also be used in “touch stun” mode, without firing the darts.

Taser International reports that their TASER is currently in use by over 7,000 of the 18,000 law enforcement agencies in the United States. It reports more than 140,000 TASERS in use by law enforcement officers and an additional 100,000 units are owned by citizens worldwide. *Taser Weapons, Use of Tasers by Selected Law Enforcement Agencies,* United States Government Accountability Office Report, May 2005. Because the TASER is in such wide use, most of the research conducted in the scientific and medical communities has focused on the TASER.

TASER has manufactured a number of models, including the M-18 and X26-C models which are available to civilian markets. The M-26 and X-26 are only available to law enforcement agencies and the military. In October 2004, the Department of Homeland Security's Transportation Security Administration approved an airline's request that specially trained flight attendants be able to use the device on passenger flights. *Taser Weapons, Use of Tasers by Selected Law Enforcement Agencies*, United States Government Accountability Office Report, May 2005.

The TASER models available to the general public have 15 foot tethers. The models available to law enforcement have a 21, 25, or 35 foot range, depending on the model.

Taser International products have a purchaser-identity system it calls "AFID" (Anti-Felon Identification). The company requires certain identifying information be provided to it prior to shipment of any air cartridge to a purchaser. The darts are loaded into the air cartridge, along with 20 to 40 tiny "AFID tags" which display the serial number of the air cartridge. The tags disperse at the scene of the firing of the TASER, and may provide a method by which the user, if unknown, can be traced.

The devices also contain a data port that records information about the number of times, and for what duration, a device was fired. This has been useful in the law enforcement community as it enhances investigations of alleged misuse of the devices.

Use of Force and Lethality, Interwoven Issues

To fully grasp the recent controversy over the ECDs, we must realize that it is centered around two primary questions:

- 1) Under what circumstances should law enforcement use the ECD; and
- 2) What risk factors are involved in its use?

The discussion of one question is by necessity interwoven with discussion of the other. Do the risks to a suspect who is "tased" outweigh the benefits of fewer hand-to-hand combat events to law enforcement officers? Is use of the ECD more or less likely to cause permanent or serious bodily harm than a police baton? What about a service revolver compared to an ECD? For purposes of this report, we will break the discussion into two major topics – Use of Force and Lethality.

Use of Force

The Rules of Law

The general rules of law that guide the proper use of force under particular factual situations that law enforcement officers face are articulated in *Graham v. Connor*, 490 U.S. 386, 109 S.Ct. 1865 (1989):

"Determining whether the force used to a particular seizure is 'reasonable' under the Fourth Amendment requires a careful balancing of 'the nature and quality of the intrusion on the individual's Fourth Amendment interests' against the countervailing governmental interests at stake. (citation omitted) Our Fourth Amendment jurisprudence has long recognized that the right to make an arrest or investigatory stop necessarily carries with it the right to use some degree of physical coercion or threat thereof to effect it. (citation omitted) Because '[t]he test of reasonableness under the Fourth Amendment is not capable of precise definition or mechanical application,' (citation omitted) however, its proper application requires careful attention to the facts and circumstances of each particular case, including the severity of the crime at issue, whether the suspect poses an immediate threat to the safety of the officers or others, and whether he is actively resisting arrest or attempting to evade arrest by flight. See *Tennessee v. Garner*, 471 U.S., at 8-9, 105 S.Ct., at 1699-1700 (the question is 'whether the totality of the circumstances justify[es] a particular sort of ... seizure'). The 'reasonableness' of a particular use of force must be judged from the perspective of a reasonable officer on the scene, rather than with the 20/20 vision of hindsight. (citation omitted) With respect to a claim of excessive force, the same standard of reasonableness at the moment applies: 'Not every push or shove, even if it may later seem unnecessary in the peace of a judge's chambers,' (citation omitted) violates the Fourth Amendment. The calculus of reasonableness must embody allowance for the fact that police officers are often forced to make split-second judgments--in circumstances that are tense, uncertain, and rapidly evolving--about the amount of force that is necessary in a particular situation." *Id.* at 396-397.

The Eleventh Circuit Court has interpreted the *Graham* case as requiring a balance of three factors in determining if the force applied in a given situation is "reasonable":

Module 5, Unit 1, Lesson 1, Florida Department of Law Enforcement Instructor's Manual, 2005.

Response Level 3 (Physical Control) includes five classifications of physical control. These are:

- Restraint Devices – mechanical tools or nylon restraints that restrict a subject's movement.
- Transporters – physical techniques used to control and/or move a subject, with minimum effort, from point A to point B.
- Takedowns – techniques that redirect a subject to get on the ground and take a position that limits resistance and facilitates application of restraint device.
- Pain Compliance – infliction of controlled pain to specific points of the body to force compliance.
- Countermoves – impede a subject's movement toward the officer or another person. Examples include striking, kicking, blocking, distracting, dodging, weaving, redirecting, and avoiding. *Id.*

Resistance Level 4 (Active Physical) is where a subject makes physically evasive movements to prevent the officer from taking control. He or she may brace or tense themselves, try to push or pull away, take a fighting stance, not allow the officer to approach, or run away. *Id.*

The corresponding Response Level (Intermediate Weapons) provides for the use of impact weapons like the baton to gain control by pain compliance at a higher level of risk for injury to the subject than a Level 3 Response calls for. For instance at Level 3, the pain compliance technique utilized is more likely to be something like pressure applied to the subject's pressure points. At Response Level 4, the officer may be justified in striking the subject in the thigh with the baton, or using chemical agents such as "pepper spray." *Id.*

The Matrix provides guidance to the officer, but it is stressed in the Basic Recruit classes that the "totality of the circumstances" must be assessed, sometimes in a split-second, in the decision to use force. These factors include the physical characteristics of the subject, seriousness of the crime, environment, number of subjects, availability of weapons, history of violence, citizen by-standers who may be in harm's way, legal requirements, and agency policy. *Id.*

Law enforcement officers can more easily assess the factors listed above than some of the factors that are

not so apparent, and yet may need to be incorporated into ECD use policies. These factors are discussed below in the Lethality section.

Risk Reduction

It has been well documented that the law enforcement agencies that have ECDs on their "tool belts" have experienced dramatic reductions in injuries, to both officers and citizens, in situations where the encounter escalates to a confrontational one.

For instance, the Chief of Police in Palatka states that in the 2 1/2 years since his department had deployed ECDs, only one officer had gone to the hospital after such an encounter. He reported no serious injuries to citizens had occurred in his jurisdiction. Prior to the deployment of the ECDs, Chief Getchell said, "we were sending officers and suspects to the hospital every weekend." *Palatka Daily News*, Getchell, citizens discuss Tasers, July 13, 2005.

The Pinellas County Sheriff's Office reports that between 2003 and 2004, the first full year Pinellas deputies carried ECDs, there was a 37 percent decline in the number of deputies injured in use of force situations. *St. Petersburg Times*, In some cases, Tasers can kill, company warns, August 4, 2005.

Captain Frank Demario of the Palm Beach County Sheriff's Office provided the following statistics to the *Palm Beach Post*: assaults on deputies went down from over 400 in 2003 (the year the department adopted the ECD) to 200 the following year. *Palm Beach Post*, Are officers too quick to fire Tasers?, May 29, 2005.

The Orange County Sheriff's Office Human Resource Division reported nearly an 80 percent decrease in officer related injuries in arrest situations over a two year period. The agency began utilizing the ECD in 2000. It should also be noted that the ECD has been used by Orange County deputies in 32 situations (2003-2004) where the use of deadly force was justified. *Report of the Orange County Sheriff's Office Taser Task Force*, pgs. 29, 31, March 4, 2005.

It is certainly true that, in those cases where officers could justify using their firearms, but choose to use an ECD instead, citizen lives are saved or at least less endangered than they otherwise would be. (See the January 1987 study entitled, "Electronic Gun (Taser) Injuries," published in the *Annals of Emergency Medicine*. The study examined 218 patients who had been "tased" by police, compared to 22 patients who had been shot with .38 caliber handguns by police. The

mortality rate for tased patients was 1.4 percent, and for gunshot victims it was 50 percent. All three of the tased patients who died had high levels of PCP in their systems. One had a previous history of heart trouble – this particular patient went into respiratory arrest followed by cardiac arrest 25 minutes after being tased. The other two patients went into cardiac arrest 5 and 15 minutes after being tased. The coroner reported all three deaths as due to PCP toxicity with no signs of myocardial damage, airway obstruction, or other pathology. *Id.*, (Ordog, et.al.)

The question then becomes: How does the relative safety and usefulness of the ECD measure up, as compared to other Resistance Response “tools”?

The British Columbia Office of the Police Complaint Commissioner undertook a comprehensive review of ECD-related issues. In the final report, a research project collaborated on by the Orange County Sheriff's Office and Florida Gulf Coast University was reviewed. The research found that many lower lethality options have a high potential for causing injury and do not necessarily put an end to the confrontation. Some of the reported facts include:

- lower lethality munitions (ex: bean bag rounds, rubber bullets) produced injuries in 80 percent of the instances of deployment – usually bruises or abrasions; in 373 deployments, 8 deaths occurred;
- conventional impact weapons (batons) produced blunt trauma injury; they had a very high potential for escalation of subject resistance if they were not immediately effective;
- chemical agents (O.C. or “pepper spray”) have a very low associated injury rate;
- conventional defensive tactics (hand-to-hand techniques used to subdue subjects) were ineffective 29 percent of the time and resulted in the largest number of subject and officer injuries; and
- the TASER had the highest level of de-escalation and provided a substantial deterrent effect when displayed but not used; the study examined 870 deployments during which one death occurred.

Taser Technology Review Final Report, Office of the Police Complaint Commissioner, OPCC File No. 2474, June 14, 2005, pg. 26.

One consideration that is difficult to assess or collect data on is that each officer-citizen encounter is unique. The following excerpt illustrates this point, and

emphasizes the importance of officer training. It also reminds us that, in the end, law enforcement officers are called upon to make lightning-quick decisions based on their training and judgment under the unique circumstances.

“Tampa Police Officer Sarah Hinsz has fired a Taser once in the past few months since she started carrying one. She used it when a mentally ill man she had encountered a few days earlier grew agitated, tearing off his clothes and telling her, ‘You’ll have to kill me.’

‘If I hadn’t used my Taser, I would have had to pull out my pepper spray and get close to him, and probably wouldn’t have been able to overpower him,’ Officer Hinsz said. ‘Then we’re going toe-to-toe, and he’s a threat to me. Then I have to pull out my gun.’” *St. Petersburg Times*, In some cases, Tasers can kill, company warns, August 4, 2005.

Lethality

There have been many reports of people who have died after being subjected to the effects of ECDs, throughout the country. Florida, in fact, leads the nation in the number of people who have died shortly after being “tased.”

In July of this year, a Chicago medical examiner became the first in the country to directly and unequivocally attribute a suspect’s death to an ECD. It should, however, be noted that, according to the Chicago Tribune newspaper, the suspect had methamphetamine in his system at the time of death. *St. Petersburg Times*, In some cases, Tasers can kill, company warns, August 4, 2005.

Accounts of deaths following the application of ECDs indicate that at least one of three variables are present in the vast majority of cases: multiple applications of the device, heart-damaging drugs including cocaine and methamphetamine are in the subject’s system, and/or the subject is in a state of excited delirium.

Excited delirium syndrome is seen by law enforcement officers where subjects seem to possess super-human strength and appear to be completely out of control. Pain compliance control responses seem to have little or no effect on the subject. Often they are naked, in a frenzy, “in their own world,” and potentially or actually dangerous to themselves, other citizens, and the officers who are dispatched to control the subject and the situation. According to a recent Potomac Institute report, in the state of excited delirium, subjects theoretically “out-run their aerobic reserve and expire,

either through fibrillation or otherwise. A key point should be made here: excited delirium syndrome implies mortality caused by multiple factors over-driving the cardiovascular-pulmonary system, and not heart failure produced through electrical surge (from a stun device) applied to or conducted to the heart.” *Efficacy and Safety of Electrical Stun Devices*, Potomac Institute for Policy Studies March 29, 2005.

Taser International appears to have recently recognized that at least the potential exists for serious health risks or deaths to occur following tasing incidents, under some limited circumstances. A recent training bulletin contained a warning that repeated application of the TASER to an individual may impair breathing and respiration. A spokesman for Taser International characterized the bulletin as a reminder to officers to only use the necessary amount of force. *St. Petersburg Times*, In some cases, Tasers can kill, company warns, August 4, 2005.

Why does this phenomenon occur? Is the ECD a direct cause of these deaths? Is it a contributing factor? If so, what are the other factors we see in the studies that have been done to date? Is there enough reliable data on relevant topics (i.e., ECDs and excited delirium, blood chemistry, pregnancy, positional asphyxia) from which to draw conclusions?

Does the use of an ECD constitute Deadly Force?

Deadly force is generally defined as force that creates a substantial risk of, or is likely to cause, death. Based on the data available as of this writing, it does not appear that ECDs should be classified as a deadly force weapon.

Reportedly, ECDs have been “linked to” 11 deaths in the U.S. and, as previously stated, only one medical examiner, in one case, nationwide, has directly attributed the cause of death to the application of an ECD. The device has been used, either in training or on the street, an estimated 162,000 times. *The Police Chief*, Chief’s Counsel: Electronic Control Weapons: Liability Issues, February 2005.

Unless and until the device is listed as the direct cause of death in a more statistically significant number of cases, the question that must be examined is: what are the contributing factors in deaths after ECD application, and how are they related to the use of the ECD?

Research Findings, On-going Studies

Amnesty International has gathered reports of 72 deaths related, to some degree, to the use of ECDs. *Amnesty International United States of America: Excessive and Lethal Force?* 2004; cited in OPPAGA Memorandum, May 4, 2005.

The Potomac Institute for Policy Studies analyzed the Amnesty International study and concluded that “in no case was stun employment implicated singularly as the cause of death, although the application of stun devices could not be ruled out as a possible contributing factor. These cases showed that other contributing factors, including pre-existing morbidity (such as heart disease), excessive drug ingestion, and multiple force applications (baton, wrestling, stunning) could have also led to the deaths. ... Odds for stunning to contribute to (this does not imply ‘cause’) death are, at worst, one in one thousand.” *OPPAGA Memorandum*, May 2005, citing Potomac Institute for Policy Studies, *Efficacy and Safety of Electrical Stun Devices*, March 29, 2005.

The Human Effects Center of Excellence (HECOE) study confirmed that ventricular fibrillation was unlikely to be a risk, although it identified the potential for unintended consequences, “albeit with estimated low probabilities of occurrence.” *Taser Technology Review Final Report*, Office of the Police Complaint Commissioner, OPCC File No. 2474, June 14, 2005, pg. 12, citing *Human Effectiveness and Risk Characterization of Electromuscular Incapacitation Devices*, HECOE Report.

Lengthy ECD exposure – three minutes of 5 second on, five second off cycles – has significant impacts on blood levels of carbon dioxide, pH, lactate, and other markers used to diagnose acute myocardial infarction, according to research done by the U.S. Air Force Research laboratory. *Taser Technology Review Final Report*, Office of the Police Complaint Commissioner, OPCC File No. 2474, June 14, 2005, pg. 21, citing a CBS News Report of the Air Force study.

Study of the effects of ECDs continues. The National Institute of Justice has awarded some \$530,000 in grants for studies that should be completed this year. In one study, a professor at the University of Wisconsin-Madison is currently testing the hypothesis that Taser-related deaths were the result of heart failure brought on by drug use and other factors, rather than the Taser itself. *OPPAGA Memorandum*, May 4, 2005.

Model Departmental Policies Being Developed

As of June 28, 2005, 240 law enforcement agencies within the state had ECDs in use. “Best Practices” policies are continuing to evolve in agencies that currently have ECD-use policies in place. For instance, in the Orange County Sheriff’s Office, the level of resistance corresponding to the response of ECD use was raised from Level 3 (passive physical) to Level 4 (active physical).

A “Taser Advisory Group” was formed to assist the FDLE Professionalism Program in creating a presentation on ECDs for the High Liability Trainers’ Conference at the end of August 2005. Over a three-day period in May 2005, detailed discussions of the Advisory Group included topics such as training, deployment criteria, legal issues, equipment maintenance, and use reporting. The group had met previously to formulate the list of pertinent topics.

The group included officers and legal staff from agencies throughout the state who discussed the ECD-related issues, and prepared the presentation, which includes a Model Policy. This policy and the Advisory Group’s report will be considered by the Florida Sheriff’s Association and the Florida Police Chief’s Association. It is expected that the Model Policy should be useful for those agencies that do not yet have an ECD-use policy, or perhaps to amend the policies of agencies that currently have them.

Government Regulation of ECDs

Because the ECD uses compressed nitrogen, rather than gunpowder to fire the darts, it does not fall under the regulation of the Federal Bureau of Alcohol, Tobacco, Firearms and Explosives. There is no federal or state criminal background check and no 3-day waiting period, as is required for the purchase of a firearm.

Taser International sells its TASER model ECD through its website. It requires certain personal identity information of its direct customers and requests that the retail dealers collect the same information. The company provides assistance in running criminal histories through CheckPoint, an online database. As previously mentioned, the device emits tiny pieces of paper imprinted with the cartridge serial number when

it is fired. This feature may assist in identifying the ECD user in unlawful use circumstances.

Florida law specifically authorizes the open carrying of both chemical spray and stun guns, for purposes of lawful self-defense. s. 790.053, F.S. Likewise, if the chemical spray or stun gun is carried for lawful self-defense purposes, they may be carried in a concealed manner. s. 790.01, F.S. It is a third degree felony to use chemical spray or a stun gun against a law enforcement officer engaged in the performance of his or her duties. s. 790.054, F.S. Use of these devices during the commission of any criminal offense is subject to prosecution under specific statutory prohibitions against such use or display, or even simple possession of certain weapons by convicted felons. ss. 790.07, 790.10, 790.23, 790.235, F.S.

The state of Illinois has begun regulating sale and possession of stun guns by requiring stun gun buyers to submit to background checks and obtain a Firearm Owner’s Identification Card. Illinois citizens were already prohibited from concealing or carrying the devices. *Press Release, Office of Governor Blagojevich*, June 23, 2005.

Other states that currently have purchase or possession restrictions include: California (felons, minors, narcotic addicts); Indiana (minors); Michigan (civilian citizens); New Jersey (civilian citizens); New York (civilian citizens); and Rhode Island (civilian citizens). Arizona, Colorado, Georgia, Indiana, Oregon and South Dakota – along with Florida – have enacted a variety of crimes specific to the use of stun guns, enhanced penalties, and provided for mandatory penalties.

RECOMMENDATIONS

Staff recommends that the use and safety of Electronic Control Devices be monitored. Law enforcement agencies are aware of the issues that concern the Legislature and the citizens of Florida, and are creating and implementing use policies that take these concerns, as well as the scientific research, into consideration. Staff suggests that law enforcement agencies are likewise sensitive to the need for standards that evolve as new, verifiable scientific information becomes available, particularly with regard to ECDs.