

GAO

Report to the Chairman, Subcommittee
on Aviation, Committee on
Transportation and Infrastructure,
House of Representatives

May 2006

AVIATION SECURITY

Further Study of Safety and Effectiveness and Better Management Controls Needed If Air Carriers Resume Interest in Deploying Less-than-Lethal Weapons



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Highlights

Highlights of [GAO-06-475](#), a report to the Honorable John L. Mica, Chairman, Subcommittee on Aviation, Committee on Transportation and Infrastructure, House of Representatives

Why GAO Did This Study

The Transportation Security Administration (TSA) has authority to approve air carrier requests to deploy less-than-lethal weapons, including electric stun devices, onboard commercial aircraft to thwart an attack. Since the terrorist attacks of 2001, one air carrier received approval to deploy electric stun devices. To address concerns regarding reports of injuries after the use of these devices and to ensure that the impacts of these devices onboard aircraft have been fully evaluated, this report answers the following: (1) What analyses has the federal government conducted to assess the safety and effectiveness of these devices onboard commercial aircraft? (2) What controls does TSA have in place to help ensure uniform and timely review of air carrier requests to deploy these devices onboard commercial aircraft?

What GAO Recommends

GAO is recommending that should air carrier interest in deploying these devices resume, TSA should ensure that there is reliable research supporting their use in an aircraft environment and that the agency implement internal controls to govern receipt and review of air carrier requests. The Department of Homeland Security agreed with our recommendations.

www.gao.gov/cgi-bin/getrpt?GAO-06-475.

To view the full product, including the scope and methodology, click on the link above. For more information, contact Cathleen Berrick at 202-512-8777 or berrickc@gao.gov.

AVIATION SECURITY

Further Study of Safety and Effectiveness and Better Management Controls Needed If Air Carriers Resume Interest in Deploying Less-than-Lethal Weapons

What GAO Found

The Transportation Security Administration and the Federal Aviation Administration (FAA) have conducted reviews addressing the effect of electric stun devices on aircraft. Plus, various federal as well as other organizations examined the health effects that electric stun devices have on individuals. But, no studies of health effects have been conducted in an in-flight environment. Moreover, according to National Institute of Justice (NIJ), although electric stun devices have been used successfully many times to subdue suspects, certain susceptible populations, such as the elderly and those with a history drug and alcohol abuse, may be at risk for negative outcomes. In April 2002, NIJ concluded that the use of electric stun devices in accordance with appropriate policies and training may be an effective means for flight deck crews to thwart an attack but should not be deployed without further testing. Similarly, in a 2003 report to Congress, TSA generally concurred with NIJ's conclusions. But, neither review included in-flight testing or empirical testing of these devices that would demonstrate that they would enhance security. TSA's position is that empirical data, particularly in an aircraft environment, is necessary to determine if these devices can be used safely and effectively.

TSA lacks key internal controls, to help ensure uniformity in decision making and a transparent process to review requests to deploy electric stun devices onboard commercial aircraft. Specifically, TSA (1) lacks a well-defined organizational area with responsibility to receive and review requests, (2) has not established formal criteria for decision making to approve requests and has not communicated criteria to external stakeholders, and (3) maintained little documentation of its decision making and activities to account for its handling of past requests. Without clearly defined approval criteria and a point of contact, TSA cannot reasonably assure that its decision making is uniform and consistent, nor can it provide a transparent request and approval process for air carriers.

Example of an Electro-Muscular Disruption Device (EMDD)



Source: GAO; Prince George's County, Md., Sheriff's Office.

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Abbreviations

ATSA	Aviation and Transportation Security Act
DHS	Department of Homeland Security
DOJ	Department of Justice
EMDD	electro-muscular disruption device
FAA	Federal Aviation Administration
FFDO	Federal Flight Deck Officer
LTL	less-than-lethal
NIJ	National Institute of Justice
TSA	Transportation Security Administration
TSL	Transportation Security Laboratory
TSNM	Transportation Sector Network Management

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United States Government Accountability Office
Washington, DC 20548

May 26, 2006

The Honorable John L. Mica
Chairman
Subcommittee on Aviation
Committee on Transportation and Infrastructure
House of Representatives

Dear Mr. Chairman:

The Transportation Security Administration (TSA) has authority to approve air carrier requests to deploy less-than-lethal weapons, including electric stun devices¹ on board commercial aircraft for the purposes of thwarting an attack.² Shortly after the terrorist attacks of September 2001, two domestic and one foreign air carrier requested approval to deploy electric stun devices on board their commercial aircraft. The two domestic air carriers sought approval to deploy these devices for flight deck crew (the pilot and others within the cockpit) but after approximately 18 months without a disposition from TSA, primarily citing confusion with the review process chose to no longer pursue their requests. The foreign air carrier, which sought approval to deploy the devices on international flights to the United States for use by government law enforcement officers and specially trained flight attendants, also experienced extended delays before ultimately receiving approval in December 2004 to deploy

¹ Less-than-lethal weapons have been developed to provide law enforcement, corrections, and military personnel with an alternative to lethal force. Weapons of this type include, among others, chemical, electromuscular inhibitor devices (more commonly known as electric stun devices), and impact projectiles. They are designed to temporarily incapacitate, confuse, delay, and restrain an adversary in a variety of situations. Less-than-lethal weapons are most often used when, (1) lethal force is not appropriate; (2) lethal force is justified but less force may subdue an aggressor; or (3) lethal force is justified but its use could cause collateral effects, such as injury to bystanders or life threatening damage to property and environment. By comparing the environment on board an aircraft with the attributes of various less-than-lethal weapons, the National Institute of Justice and TSA concluded that electric stun devices showed the most promise and were the only acceptable less-than-lethal weapon for use on commercial aircraft. Therefore, this report focuses on the use of electric stun devices.

² See, e.g., Aviation and Transportation Security Act, Pub. L. No. 107-71, § 126(b), 115 Stat. 597, 632 (2001) (codified as amended at 49 U.S.C. § 44903(i)). *See also, e.g.*, 49 C.F.R. Pt. 1546.

electric stun devices in its passenger cabins.³ According to air carrier officials we spoke to, since the establishment of additional security measures such as an expansion of the Federal Air Marshal Service,⁴ hardened cockpit doors, 100 percent passenger and baggage screening, and particularly initiation of the Federal Flight Deck Officer (FFDO) program,⁵ air carrier interest in deploying electric stun devices to enhance security has diminished. Notwithstanding the current lack of demonstrated interest, it is possible that demand among air carriers to deploy these devices could resume in the future.

Due in part to recent reports regarding injuries after the use of electric stun devices and the lack of regulations governing their general use, the House Subcommittee on Aviation wants to ensure that the impacts of using electric stun devices on board commercial aircraft have been fully evaluated. Given this concern, this report addresses the following questions:

- What analysis has the federal government conducted to assess the safety and effectiveness of electric stun devices on board commercial aircraft?
- What controls does TSA have in place to help ensure uniform and timely review of air carrier requests to deploy electric stun devices on board commercial aircraft?

Scope and Methodology

To determine what analysis the federal government had conducted to assess the safety and effectiveness of electric stun devices on board commercial aircraft, we conducted a literature search to identify the extent of past research that had been done by various federal agencies on the safety and effectiveness of deploying these devices on board commercial aircraft. We also conducted a literature search of existing

³ The foreign air carrier initially requested to deploy these devices on international flights to the U.S. in March 2002. It subsequently renewed its request in May 2004. Obtaining TSA authorization to deploy such devices required the foreign air carrier to amend, and TSA to approve, its security program. *See* 49 C.F.R. § 1546.105.

⁴ The Federal Air Marshal Service consists of trained and armed civil aviation security specialists that are deployed on board aircraft to protect passengers, crew, and aircraft from terrorist activities on both domestic and international flights.

⁵ Commercial pilots who volunteer to participate in the Federal Flight Deck Officers Program are trained and equipped with firearms to protect the aircraft cockpit. The pilots are deputized as federal flight deck officers. *See* 49 U.S.C. § 44921.

studies addressing the health effects of these devices. We currently have a separate ongoing engagement that is evaluating the extent to which claims regarding the safety and effectiveness of electric stun devices are supported by currently available scientific data. The results of our literature searches were limited because no federal studies or reviews examining the use of electric stun devices on board commercial aircraft have been published since May 2003, and no studies have been published examining the potential health effects of these devices on individuals who are on board commercial aircraft. We examined reviews produced by the Department of Justice's National Institute of Justice (NIJ) and by Department of Homeland Security's (DHS) Transportation Security Laboratory (TSL)⁶ as well as a TSA report to Congress regarding the use of less-than-lethal weapons, including electric stun devices, on board commercial aircraft and reviewed the methodologies employed and the conclusions drawn. We also examined Federal Aviation Administration (FAA) reviews of test data submitted by a commercial air carrier and spoke to the individual at FAA who produced those reviews.

To assess what controls TSA put in place to help ensure uniform and timely review of air carrier requests to deploy electric stun devices on board commercial aircraft, we reviewed TSA's handling of these requests and compared this process to our Standards for Internal Control in the Federal Government.⁷ Specifically, to determine how TSA ensures uniform and timely review of air carrier requests, we interviewed cognizant TSA officials regarding their processing of past requests and reviewed related documentation. Our ability to obtain complete information at TSA was limited because, according to TSA officials, individuals involved in reviewing past requests from air carriers were no longer with the agency and only limited documentation of the review process or supporting materials was retained by TSA. However, we were able to obtain copies of some TSA correspondence and other documents regarding the review process from private sector officials involved in the requests. We interviewed officials from FAA regarding their role and activities in reviewing requests from commercial air carriers wishing to deploy less-than-lethal weapons. We also interviewed officials from a nonprobability

⁶ The Transportation Security Laboratory was within the Transportation Security Administration until October 2005 when it was transferred to the Science and Technology Directorate of the Department of Homeland Security.

⁷ GAO, *Internal Control: Standards for Internal Control in the Federal Government*, GAO/AIMD-00-21.3.1 (Washington, D.C.: November 1999).

sample of eight domestic air carriers selected based on number of flights per year,⁸ two of which had requested permission from TSA to deploy electric stun devices on board their aircraft. Because this is a nonprobability sample, results of these interviews cannot be generalized to the universe of air carriers. We also interviewed officials from the one foreign air carrier that had requested and received permission to deploy these devices on their aircraft. In instances where air carriers had requested approval to deploy these devices, we asked them to assess their experience with TSA regarding any guidance provided and responsiveness to their requests. We also interviewed officials from five domestic air industry associations and obtained the views of two foreign air carrier associations to determine their views on the general efficacy of using electric stun devices on commercial aircraft.⁹

We conducted our work between June 2005 and April 2006 in accordance with generally accepted government auditing standards.

Results in Brief

The Transportation Security Administration, DHS Transportation Security Laboratory, Federal Aviation Administration, and the National Institute of Justice have conducted reviews addressing the effect of electric stun devices on aircraft avionics. The TSA and TSL reviews also addressed the potential security effectiveness of these devices. In addition, various federal and other organizations have conducted reviews addressing the health effects of electric stun devices on individuals. However, no studies of health effects have been conducted in an in-flight environment. Moreover, according to an NIJ official, although electric stun devices have been used successfully many times to subdue suspects, including individuals who may fall into certain potentially susceptible populations, there is no independent research to indicate whether these electric stun devices would be either safe or unsafe. However, some susceptible

⁸ Nonprobability sampling is a method of sampling where observations are selected in a manner that is not completely random, usually using specific characteristics of the population as criteria. Results from nonprobability samples cannot be used to make inferences about a population because in a nonprobability sample some elements of the population being studied have no chance or an unknown chance of being selected as part of the sample.

⁹ The domestic trade associations were the Air Line Pilots Association, Air Transport Association, Association of Flight Attendants, Coalition of Airline Pilots Associations, and Regional Airline Association. The foreign airline associations we contacted were Association of European Airlines and the Association of Asian Pacific Airlines.

populations such as the elderly and those who have a sustained history of alcohol and illicit drug use may be at greater risk for negative outcomes. NIJ recommended that study of these issues be conducted and has initiated several projects in this area. The TSL and the FAA each reviewed a study conducted in February 2002 by an air carrier regarding the effect of one model of electric stun device on aircraft avionics and concurred with the carrier's conclusion that the 50,000 volt device tested would be unlikely to harm aircraft avionics. The TSL review cautioned, however, that the results for the one type of device tested do not necessarily reflect how other brands and models of electric stun devices may perform under similar circumstances. For example, according to the TSL review, it is likely that devices exceeding 100,000 volts would not be suitable for use on aircraft. In April 2002, the NIJ concluded that the use of electric stun devices in accordance with appropriate policies and training may be an effective means for flight deck crews to thwart an attack.¹⁰ Similarly, in a report to Congress issued in May 2003, which TSA officials told us consisted primarily of the results of a literature search, TSA generally concurred with NIJ's conclusion but further concluded that commercial aviation security may be enhanced through deployment of these devices. Although both the TSA and the NIJ reports provided a conceptual framework for determining the suitability of electric stun devices in an aircraft environment, neither review included in-flight testing or other empirical analysis to conclude that electric stun devices offered additional security. In its report, NIJ also concluded that electric stun devices should not be deployed in aircraft until extensive testing had been completed in realistic settings and on various types of aircraft. TSA's current position is that empirical data, particularly in an aircraft environment, is necessary to determine if these devices can be used safely and effectively.

TSA lacks key internal controls, prescribed in our Standards for Internal Control in the Federal Government, to help ensure uniformity in decision making and a clear and transparent process for reviewing requests to deploy electric stun devices on board commercial aircraft. Specifically, TSA

¹⁰ Section 126(a) of Aviation and Transportation Security Act (ATSA) required the National Institute of Justice to assess the range of less-than-lethal weaponry available for use by a flight deck crew member to temporarily incapacitate an individual who presents a clear and present danger to the safety of the aircraft, its passengers, or individuals on the ground and report its findings and recommendations to the Secretary of Transportation within 90 days after the date of enactment of the act. See National Institute of Justice, *Less-than-lethal Weaponry for Aircraft Security* (Washington, D.C.: Apr. 19, 2002).

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- lacks a well-defined organizational area or individual with responsibility for receiving and reviewing requests,
 - has not established formal criteria for decision making to approve requests and has not clearly communicated criteria to external stakeholders, and
 - maintains little or no documentation of its decision making and activities to account for its handling of past requests to deploy electric stun devices.

Without clearly defined and communicated approval criteria and organizational point of contact, TSA cannot have reasonable assurance that its decision making is uniform and consistent, nor can it provide a clear and transparent request and approval process for air carriers. The lack of a formal system of record keeping also prevents TSA management from ensuring consistency in decision making and diminishes TSA's ability to be accountable to Congress and other stakeholders. TSA officials were not able to tell us specifically why these controls were not in place when prior applications were being reviewed. According to TSA, air carriers have not expressed an interest in deploying electric stun devices on board their aircraft since October 2004, and TSA does not currently anticipate additional air carrier requests. However, TSA stated that it would implement these internal controls for future requests that may come in from air carriers.

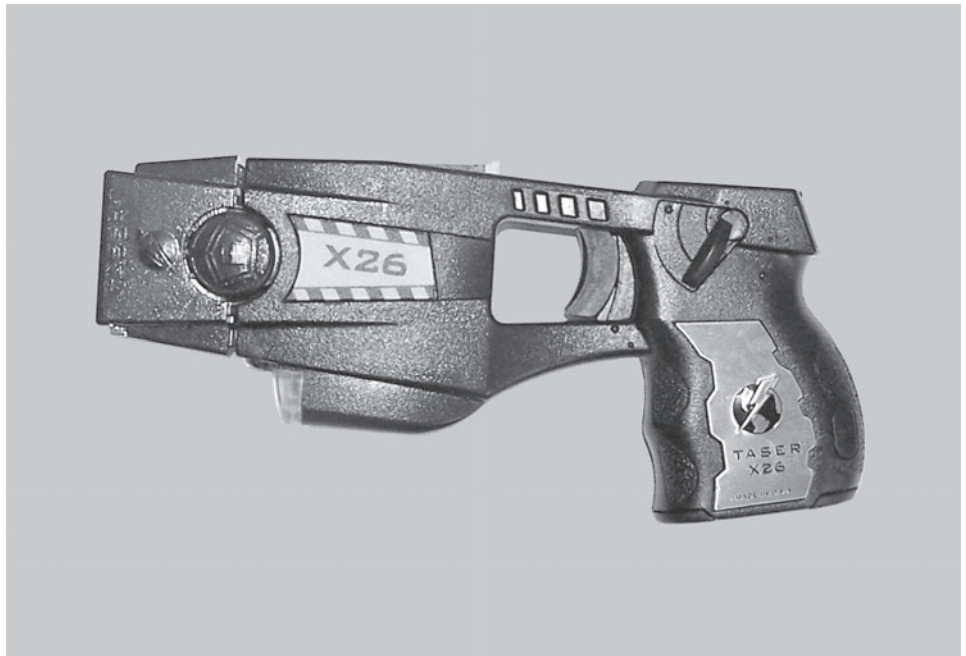
In order to help ensure that TSA's review and approval process for the use of less-than-lethal weapons, including electric stun devices, is responsive, uniform, accountable, and serves the public interest, we are recommending that the Secretary of Homeland Security direct the Assistant Secretary, TSA, to ensure that there are reliable studies and research supporting the use of less-than-lethal devices on commercial aircraft should air carrier interest in deploying these devices resume. Also, in order to help ensure consistency in decision making and responsiveness to air carriers, we are recommending that the Secretary of Homeland Security direct the Assistant Secretary, TSA, to implement key internal controls related to TSA's handling of requests for the use of less-than-lethal weapons, including electric stun devices, on board commercial aircraft. In commenting on this report, TSA agreed with our findings and recommendations and has begun to establish the framework for a review process that will implement internal controls to more effectively govern the receipt and review of any future requests by air carriers to deploy LTL weapons on board their aircraft.

Background

According to NIJ—the research, development, and evaluation agency within DOJ—less-than-lethal weapons, including electric stun devices, are designed to incapacitate, confuse, delay, or restrain an adversary in a variety of situations. Less-than-lethal weapons can be grouped into six general categories: electric stun, chemical, impact projectile, physical restraint, light, and acoustic. Preliminary reviews conducted by NIJ and TSL identified that of the six different less-than-lethal weapon categories, electric stun devices showed the most promise for use on board commercial aircraft.

There are two types of electric stun devices that have potential use in commercial aircraft according to a May 2003 TSA report. The first is a handheld device with two probes that, when pressed against the skin or clothing of an attacker and activated by the operator, produces a high (50,000) voltage but low current discharge. When contact is made between the attacker and the activated device, a circuit is completed, and the subject receives a debilitating shock. The second type of electric stun device is technically referred to as an electro-muscular disruption device (EMDD). An EMDD fires two barbs connected to trailing wires that lead back to the operator. When the barbs penetrate the subject's skin or clothing, an electrical circuit is completed, and an electrical discharge, similar to the direct contact device discharge, automatically results causing an immediate loss of the person's neuromuscular control and the ability to perform coordinated action for the duration of the impulse. This barb type EMDD device, shown in figure 1, is similar to the type considered for use by air carriers and is hereafter referred to in this report as an electric stun device.

Figure 1: Example of an Electro-Muscular Disruption Device (EMDD)



Source: GAO; Prince George's County, Maryland, Sheriff's Office.

TSA may provide air carriers operating to, from, or within the United States with authorization to use less-than-lethal weapons, including electric stun devices, on board their aircraft subject to legal and regulatory considerations. For example, TSA must follow the requirements of 49 U.S.C. § 44903(i) before granting an air carrier request to arm members of the flight deck crew with electric stun devices.¹¹ Similarly, air carriers that request permission to allow the use of such devices by persons other than flight deck crew (such as government law enforcement officers and flight attendants—persons situated outside of the cockpit), as was the case with the foreign air carrier, must seek an amendment to its TSA-

¹¹ Pursuant to 49 U.S.C. § 44903(i), TSA may authorize members of a flight deck crew to carry less-than-lethal weapons if, in accordance with recommendations of the NIJ, it determines, with approval of the Attorney General and Secretary of State, that deploying such weapons is appropriate, necessary, and would effectively serve the public interest in avoiding air piracy. Upon granting such authority TSA must prescribe rules for training such crew members in the proper use of the weapons and guidelines setting forth circumstances under which the weapons may be used.

approved security program.¹² In the case of a foreign air carrier, TSA may approve such an amendment if it finds that the security program, as amended, continues to provide a level of protection similar to the level provided by U.S. air carriers servicing the same airports.¹³

FAA also plays a collateral role in the determination of whether electric stun devices can be deployed on board commercial aircraft.¹⁴ FAA has the ultimate responsibility for ensuring the safe operation of aircraft within the United States.¹⁵ According to FAA officials, FAA certifies the airworthiness of all domestic aircraft before they are put into service and performs periodic safety inspections as part of FAA's safety oversight responsibilities. FAA's airworthiness certifications, however, would not address the use of electric stun devices because, according to FAA, such devices fall within the category of portable electronic devices that are not considered part of the aircraft itself. FAA's regulations generally require the operator of the aircraft to determine whether a portable electronic device will interfere with the safe operation of the aircraft before allowing its operation on board.¹⁶ Consequently, FAA does not formally approve the use of portable electronic devices and would not for electric stun devices.¹⁷ According to FAA officials, if asked by an air carrier and

¹² For example, the foreign air carrier sought to amend its TSA-approved security program to allow for the use of electric stun devices by armed law enforcement officers and specially trained flight attendants in accordance with 49 C.F.R. § 1546.105.

¹³ See 49 C.F.R. § 1546.103(a)(1) (providing that a foreign air carrier security program is only acceptable to TSA if it provides passengers a similar level of protection); *but see* 49 U.S.C. § 44906 (requiring that the foreign air carrier security program adhere to *identical* measures (emphasis added)).

¹⁴ For example, 49 U.S.C. § 114(f) (13) imposes upon TSA a duty to work in conjunction with FAA regarding any actions or activities that may affect aviation safety or air carrier operations. In addition, § 114(l)(4) prohibits TSA from taking an aviation security action if the FAA Administrator notifies TSA that the action could adversely affect the airworthiness of an aircraft. TSA may then only proceed with such action if the Secretary of Transportation subsequently approves the action.

¹⁵ FAA is responsible for ensuring the safe flight of domestic air carriers, but also has responsibilities, though more limited in scope, for the safety of foreign air carriers operating to, from, or within the United States. *See, e.g.*, 14 C.F.R. pt. 129.

¹⁶ *See, e.g.*, 14 C.F.R. § 91.21 (governing the use of portable electronic devices on board aircraft). FAA regulations do not require air carriers to submit findings to FAA or obtain the agency's approval before authorizing the use of a portable electronic device on board the aircraft.

¹⁷ Regardless, air carriers must obtain TSA authorization before deploying or allowing electric stun devices on board aircraft flying to, from, or within the U.S. *See, e.g.*, 49 C.F.R. § 1544.201(d).

resources permitting, the agency could render a technical opinion on the safety of such devices, but it is up to the air carrier to prove that the device will not interfere, disturb, interrupt, or cause catastrophic failure to the avionics of the aircraft. If FAA's review of the air carrier's testing indicates that these devices may have some adverse affect on aircraft avionics, FAA would bring it to the air carrier's attention. According to FAA officials, the FAA does not issue any documentation of approval or certification regarding the use of portable electronic devices on aircraft. In particular, FAA officials told us that it would not be appropriate for the agency to provide TSA written approval for the use of any type of portable electric devices, including less-than-lethal devices. Further, according to FAA officials, the agency has no specific safety standard for less-than-lethal devices. Officials added that for any electric stun devices actually deployed on commercial aircraft, FAA would consider any safety issues as part of its normal oversight inspections.

Officials from each of the eight domestic air carriers we interviewed stated that after the terrorist attacks of September 2001, they reassessed their security procedures in an effort to upgrade their security posture. Among the security initiatives each air carrier considered, was arming pilots with electric stun devices. Representatives from the air carriers had mixed views on whether electric stun devices or firearms would be their preferred security measure within the cockpit. However, none of the domestic air carrier officials we interviewed said their airlines had considered having electric stun devices available for use by flight attendants in the cabin, primarily because they believed carrying these devices is incompatible with flight attendants' customer-service role. Shortly after the terrorist attacks of September 2001, two domestic air carriers sought TSA approval to allow flight-deck crews to use these devices. In addition, one foreign air carrier made two separate requests and ultimately received TSA approval in 2004 to deploy electric stun devices to government law enforcement officers and specially trained flight attendants situated in the passenger cabin of its aircraft.

Domestic air carrier trade associations we interviewed generally favored the use of firearms over electric stun devices on the flight deck due to perceived vulnerabilities of the electric stun devices against multiple attackers as well as the temporary effect that the device may have. Similarly, the associations we interviewed expressed concerns about possible failures of the devices at critical times and simple countermeasures that could be used to limit their effectiveness. Since the establishment of additional security measures after the terrorist attacks of September 2001, such as an expanded Federal Air Marshal Service,

hardened cockpit doors, 100 percent passenger and baggage screening, and particularly the voluntary arming of pilots through the FFDO program, air carrier interest in deploying electric stun devices to enhance security has diminished. Officials from some air carriers we spoke to stated that the high cost of deployment of electric stun devices as well as liability concerns, compared to the liability relief afforded through the FFDO program, made the use of electric stun devices relatively less attractive.¹⁸ According to the Association of European Airlines, it is its general position that the presence of weapons on board aircraft, be they lethal or nonlethal, be they on the flight deck or in the passenger cabin, should be prohibited. Similarly, the Association of Asian Pacific Airlines said its member airlines are generally adamant about not arming the cabin crew with any weapon on board an aircraft and are more in favor of ground-based security approaches.

Existing Reviews and Studies Do Not Provide Definitive Evidence of the Safety and Security Effectiveness of Electric Stun Devices on board Commercial Aircraft

The federal government has conducted limited reviews addressing the effect of electric stun devices on individuals or aircraft avionics and on their security effectiveness, none of which was supported by empirical analysis or testing in an aircraft environment. Although various federal and other organizations have reviewed the health effects that electric stun devices have on individuals, studies have not been conducted in an in-flight environment. Moreover, according to an NIJ official, there is no independent research to indicate whether these electric stun devices would be either safe or unsafe regarding certain potentially susceptible populations. TSL and FAA each reviewed a study conducted by an air carrier regarding the effect of one model of electric stun device on aircraft avionics and concurred with its conclusion that the device tested would be unlikely to harm aircraft avionics. The TSL review cautioned, however, that the results for the one type of device tested do not necessarily reflect how other brands and models of electric stun devices may perform under similar circumstances. NIJ concluded that the use of these devices in accordance with appropriate policies and training may be an effective means for flight deck crews to thwart an attack. Similarly, in a report to Congress issued in May 2003, TSA generally concurred with NIJ's conclusion and further concluded that commercial aviation security may be enhanced through deployment of these devices. However, it concluded that electric stun devices should not be deployed in aircraft until extensive

¹⁸ 49 U.S.C. § 44921(h) provides liability protections to air carriers and FFDO's from liability arising out of an FFDO's use or failure to use a firearm.

testing has been completed in realistic settings and on various types of aircraft.

Federal and Other Organizations Have Reviewed Health Effects of Electric Stun Devices, but NIJ Officials Recommended More Study

Federal agencies and other organizations have conducted reviews addressing the health effects of electric stun devices on individuals. Moreover, according to an NIJ official, although electric stun devices have been used successfully many times to subdue suspects, including individuals who may fall into certain potentially susceptible populations, there is no independent research to indicate whether these electric stun devices would be either safe or unsafe. However, some susceptible populations such as the elderly and those who have a sustained history of alcohol and illicit drug use may be at greater risk for negative outcomes. NIJ recommended that study of these issues be conducted and has initiated several projects in this area.

The Federal Government Has Conducted Limited Analysis on the Effects of Electric Stun Devices on Critical Aircraft Avionics

The federal government has conducted limited analysis to determine if electric stun devices would adversely affect aircraft avionics. In April 2002, FAA, in its role of ensuring the safe operation of aircraft, within the United States, reviewed test data submitted by a domestic air carrier, regarding one specific electric stun device and its potential effect on aircraft avionic systems.¹⁹ FAA officials told us that they did not publish any results of this preliminary review but did communicate to TSA that based on the air carriers' test results; it did not believe the particular device tested would have an adverse affect on aircraft avionics. FAA officials added that if electric stun devices were actually deployed on commercial aircraft, FAA would consider any safety issues as part of its normal oversight inspections. Similarly, TSL published a review of the same test data in September 2002. TSL's review focused on technical and airworthiness factors including potential levels of electromagnetic interference from discharging the electric stun device. Although FAA and TSL have not performed any in-flight testing of their own, both concurred with the conclusion of the air carrier study that the one type of 50,000 volt electric stun device tested would be unlikely to harm aircraft avionics. The TSL review cautioned, however, that the results for the one type of device tested do not necessarily reflect how other brands and models of electric stun devices may perform under similar circumstances. For example,

¹⁹ The domestic air carrier tested one model of electric stun device in a number of aircraft models within its fleet and on the ground.

according to the TSL review, it is likely that devices exceeding 100,000 volts would be unsuitable for use on aircraft.

Federal Reviews Conclude Electric Stun Devices May Enhance Commercial Aviation Security, but Supporting Analysis Is Limited

In its April 2002 report, NIJ concluded that electric stun devices, used in accordance with appropriate policies and training, may have the potential to allow flight deck crews to thwart an attack while an aircraft is in flight—i.e. interrupt an attack, control an aggressor, or delay an attack while the flight crew safely lands the aircraft. However, the report did not include any empirical testing of electric stun devices in an aircraft setting to demonstrate how they would enhance security. Rather, information for its report was derived by reviewing existing information on electric stun devices as well as meeting with experts from the aviation industry and persons experienced in the design and use of less-than-lethal technology in settings other than aircraft. To determine whether electric stun devices have the potential to enhance aviation security, NIJ first identified certain desirable characteristics in less-than-lethal weapons given the environment that exists in an aircraft. Specifically, in commercial aircraft (1) sensitive critical flight instruments are in continual use; and (2) passenger and crew spaces are crowded and confined. According to NIJ, given this environment, less-than-lethal weapons that would be used to thwart attacks on board commercial aircraft should exhibit the following characteristics

- immediately incapacitate an aggressor;
- have quickly reversible and controllable effects;
- be usable in a confined space;
- be simple to operate;
- have multishot capability; and
- not damage critical avionics (navigational, etc.).

Next, NIJ compared various categories of less-than-lethal weapons, including electric stun devices, against these criteria. It concluded that electric stun devices showed the most promise for use by flight deck crews.

TSL, in a report issued in September 2002, concurred with NIJ's earlier findings and similarly concluded that less-than-lethal weapons may provide an additional layer of security and deterrence in the aviation environment. However, the report focused primarily on the effects on airworthiness and technical issues associated with electric stun devices. References in the TSL report regarding the security benefits associated

with these weapons were based primarily on work previously conducted by NIJ.

In a separate report to Congress issued in May 2003, TSA concluded that commercial aviation security could be enhanced through the deployment of electric stun devices. Although this report provided a conceptual framework for evaluating the suitability of different categories of less-than-lethal weapons for use in an aircraft environment, like the NIJ study, no weapons were tested against various threat scenarios including air piracy threats. TSA officials told us that this report was hurriedly put together to meet a congressional mandate and that it relied primarily on the earlier NIJ study and a review of other literature. When asked about their current position regarding the use of electric stun devices on board aircraft, TSA officials told us that empirical data and operational case studies, particularly in the aircraft environment, would be necessary to determine whether these devices can be deployed safely, effectively, and in a tactically reasonable manner.

Similar to NIJ, TSA, to conduct its review, assessed the characteristics of various categories of less-than-lethal weapons—including electric stun devices, chemical (conventional), chemical (sedative), impact projectile, physical restraint, light, and acoustic and malodorous weapons—against a predetermined set of criteria to determine their suitability for use in a commercial aircraft environment. These criteria covered the following aspects related to the devices

- currently used in law enforcement;
- potential to cause collateral damage;
- potential to cause catastrophic aircraft failure;
- how quickly effects occur;
- reversibility of effects;
- potential for unintended consequences or other deployment concerns; and
- relative effectiveness to deter or defeat threats.

After comparing each category of less-than-lethal weapon to the criteria, like NIJ, TSA concluded that only electric stun devices may be suitable for aircraft deployment.

The National Institute of Justice Identified Areas for Further Research Regarding Electric Stun Devices

In its April 2002 report, NIJ concluded that each type of less-than-lethal weapon poses either safety or effectiveness issues that should be tested further in multiple aircraft settings before any deployment. It also concluded that systematic testing of the weapons' effects on critical aircraft avionics is essential to ensure they will not damage or disable flight systems. Further, the report noted that the most important unknown with these devices is the potential effect of a high-voltage electrical discharge on aircraft avionics. Therefore, NIJ concluded that electric stun devices should not be deployed in aircraft until extensive testing has been completed in realistic settings and on various types of aircraft.

TSA Has Not Established Internal Controls to Help Ensure Uniform and Timely Review Regarding Requests for Use of Electric Stun Devices

TSA has not established processes and procedures for reviewing requests from air carriers to deploy electric stun devices on board their aircraft that include (1) well defined key areas of authority and responsibility, (2) clearly communicated information regarding decision-making criteria to TSA decision makers and their external stakeholders, and (3) a records system to account for handling of requests and supporting documentation—three key internal controls called for by the Standards for Internal Control in the Federal Government. TSA officials were not able to tell us specifically why these controls were not in place when prior applications were being reviewed. TSA officials stated that they currently do not plan to establish these controls because air carriers have not expressed an interest to TSA in deploying these devices since October 2004, and officials do not anticipate additional air carrier requests.

A Lack of Well-Defined Areas of Responsibility Led to Air Carriers' Confusion Regarding the Status of Their Requests

TSA does not have a well-defined organizational area or individual with responsibility for receiving and reviewing requests from air carriers interested in requesting approval to deploy electric stun devices on board their aircraft to enhance security. Internal control standards in the federal government state that to have an effective control environment it is important for agencies to clearly define key areas of authority and responsibility. Officials from all three air carriers that had submitted requests to TSA to deploy electric stun devices on board commercial aircraft told us that they had experienced confusion regarding the status and disposition of their requests and were unaware to whom they should have directed inquiries. For example, an official from one domestic air carrier stated that it was in contact with multiple TSA personnel but were not sure which individual was in charge of reviewing electric stun device requests or whether the information it received from TSA was accurate and authoritative. We also noted during our review of TSA documentation

that in at least one instance, a TSA official requested information from an air carrier that had previously been received by the agency.

As the National Strategy for Homeland Security indicates and as we have reported in previous work, securing the nation requires effective partnerships with the private sector.²⁰ Air carriers that seek to enhance security measures on board their aircraft offer an opportunity for such partnership. However, without a clearly defined organizational area or individual within TSA to review requests and communicate effectively with the requesting air carrier officials, TSA cannot be a responsive and effective partner.

According to TSA officials, there is currently no organizational area or individual responsible for receipt or review of requests from air carriers that may wish to deploy electric stun devices on board their aircraft because of the lack of demonstrated interest from air carriers.

TSA Has Not Established and Clearly Communicated Formal Criteria or Guidelines for Decision Making to Internal or External Stakeholders

TSA has not established and communicated a formalized set of criteria to evaluate air carriers' requests to deploy electric stun devices as a security measure on board their aircraft. Internal control standards in the federal government state that for a federal agency or private sector entity to run and control its operations effectively, it must have relevant, reliable, and timely communications relating to internal as well as external events. Although TSA received requests from three air carriers to deploy these devices, it did not have criteria established within the agency and communicated to air carriers that would (1) help ensure uniform decision making and (2) make requirements for approval clear to all parties.

The lack of established and well-communicated criteria resulted in inefficient handling of requests that made the process more difficult for the air carriers. In particular, TSA made multiple requests for nearly a year and a half for information from the two domestic air carriers that requested permission to deploy electric stun devices, without clearly communicating what would be required for approving their requests or clearly explaining why additional information was being requested. Ultimately, one domestic air carrier withdrew its request to use electric

²⁰ GAO, *Homeland Security: Agency Plans, Implementation, and Challenges Regarding the National Strategy for Homeland Security*, GAO-05-33 (Washington, D.C.: Jan. 14, 2005).

stun devices in June 2003, primarily citing confusion over TSA's protracted approval process. The other domestic air carrier that had requested permission to deploy the devices did not formally withdraw its request, but also made the decision in June 2003 not to further pursue the initiative. One of these air carriers also cited mitigating security measures such as the FFDO program and reinforced cockpit doors that had been implemented as an additional reason why it did not continue pursuing the deployment of electric stun devices and also the additional costs of implementing a less-than-lethal weapons program.

In its May 2003 report to Congress, TSA proposed a number of key criteria for evaluating requests from air carriers to deploy less-than-lethal devices on board their aircraft. Among these criteria was the need for (1) an appropriate training regimen, (2) procedures of use, and (3) assurance from the air carriers that the devices would provide passenger safety. However, these criteria were not formally established for use by TSA decision makers when evaluating air carrier requests nor communicated to air carriers interested in requesting permission to use these devices. We have included a list of these proposed criteria in appendix I of this report. In addition to making the request process consistent and clear, establishing criteria can help the agency ensure that any approvals for the use of electric stun devices on board commercial aircraft are compatible with TSA's mission to ensure the security of the nation's transportation system and the traveling public. For example, in the case of criteria governing training, we have previously reported that any civilian electric-stun-device training curriculum should have a very explicit use-of-force policy. Unlike police officers, civilians are not generally experienced in deciding whether the use of force is justified and, if so, to what extent. Therefore, it should be the goal of any training curricula for persons authorized to utilize electric stun devices, such as aircraft flight deck or cabin crew members, to involve as many scenarios as possible so that the trainee understands what level of force is appropriate.²¹

Although TSA has no supporting documentation of having applied the criteria proposed in its 2003 report to requests submitted by commercial

²¹ GAO, *Taser Weapons: Use of Tasers by Selected Law Enforcement Agencies*, [GAO-05-464](#) (Washington, D.C.: May 26, 2005). For example, pursuant to any authorization granted by TSA for an air carrier's flight deck crew members to carry a less-than-lethal weapon under § 44903(i), TSA must prescribe rules requiring that any such crew member be trained in the proper use of the weapon and guidelines setting forth the circumstances under which such weapons may be used.

air carriers, according to agency officials, TSA took into account these considerations when ultimately approving the foreign air carrier request in December 2004. TSA officials further told us that any additional requests would be evaluated on a case-by-case basis using similar considerations. However, without establishing and clearly communicating criteria and information needs both internally and externally, TSA cannot have reasonable assurance that its decision making will be uniform, consistent, compatible with its mission and clear and transparent for air carriers seeking approval to deploy these devices. TSA officials stated that they still consider the criteria contained in the May 2003 report to the Congress appropriate and current for use in handling any requests by air carriers to implement a less-than-lethal weapons program.

TSA officials said that they could not fully explain the delays in addressing the early requests from the air carriers because the persons involved with the initial request reviews are no longer with the agency. Officials stated that at the time of the initial requests, there was a high rate of turnover and a rapid rate of change associated with the formation of TSA as a new agency. Officials further stated that the agency was not fully ready to address requests to deploy electric stun devices before the time the foreign air carrier request was reviewed in 2004. Even at that point, TSA officials said that they planned to review each application that was received on a case-by-case basis since they did not expect a high demand from air carriers to deploy these devices. According to TSA officials, since 2004, no other carriers have expressed an interest in electric stun devices as a security measure. TSA officials told us that because of this lack of interest, no program requirements or criteria were ever formalized regarding the use of electric stun devices on commercial aircraft; however, if future requests are received, TSA would take steps to formalize these criteria into specific guidelines for the application review process.

We asked TSA officials how they planned to address any potential future requests from air carriers to deploy less-than-lethal weapons including electric stun devices on board their aircraft. They stated that the TSA Transportation Sector Network Management (TSNM) Airlines office would take the lead for any requests from domestic air carriers. For foreign air carriers, TSNM's International Division will take the lead. Further, a working evaluation group, consisting of the Federal Air Marshal Service, Office of Chief Counsel, and other program offices at the discretion of the administrator will be involved in the review process. According to TSA, this group will provide their respective expertise and recommendations to the lead office. Each lead office will be responsible for resolving differences, keeping diligent records of the review process, the ultimate

approval or disapproval decision, and responding to the requesting air carriers in a timely manner.

TSA Has Not Maintained Documentation of Its Activities and Key Decisions Related to Electric Stun Device Requests

For the three requests submitted, TSA did not record (1) the rationale for and outcome of its decision making regarding requests to deploy electric stun devices or (2) the information and documentation exchanged between the agency and air carriers. According to the Standards for Internal Control in the Federal Government, agency activities should be promptly recorded to maintain their relevance and value to management in controlling operations and making decisions. This applies to the entire process, from initiation and authorization through final classification. Moreover, to help ensure accountability and internal oversight, this documentation should be readily available for examination by TSA management, Congress, and other appropriate external parties. Although, in its 2003 report to Congress, TSA stated that its Office of Aviation Operations would maintain a system of records for requests to deploy electric stun devices, few records were kept. Agency officials told us that they maintained only limited documentation regarding the foreign air carrier's request and maintained no documentation regarding the receipt and review of request materials submitted by the two domestic air carriers. Without a system of documentation, TSA management will not be able to review decisions to help ensure consistency and responsiveness to air carriers making requests, nor will TSA be able to readily make documentation available for examination by Congress and other appropriate external parties. As we noted above, TSA told us that, in the future, it plans to keep diligent records of the review process and ultimate approval or disapproval decisions for all requests from air carriers.

Conclusions

Due primarily to other enhancements in aviation security since 2001, there appears to be no demonstrated interest on the part of air carriers to introduce less-than-lethal weapons, including electric stun devices, on their aircraft. However, should interest in such measures resume, federal government reviews to date have identified areas in need of further study before these devices are deployed on board commercial aircraft. In particular, it would be important for TSA to know the appropriateness of the devices in an aircraft environment, effects on the safe operation of the aircraft, effects on passenger safety, and how such devices would enhance security.

Also, should interest in using less-than-lethal devices on aircraft resume, TSA would not be in the best position to address new requests in an

efficient and effective manner. Without internal controls to govern its process for receiving and reviewing requests from air carriers, TSA would lack assurance that its decision making is appropriate and necessary and serves the public interest. Specifically, without a well-defined organizational area or individual with responsibility for receiving and reviewing requests, TSA cannot be a responsive and effective partner with private sector air carriers. In addition, it will not be able to provide a clear and transparent request process for air carriers. Without established and clearly communicated information regarding decision-making criteria, within TSA and for its external stakeholders, TSA lacks reasonable assurance that its decision making will be uniform, consistent, and compatible with its mission. Although TSA outlined criteria in a 2003 Report to Congress for use in examining requests from air carriers, the agency never formalized any criteria for use by decision makers, nor did it communicate clear criteria to air carriers making requests for approval. Finally, without documentation of key activities and decisions related to less-than-lethal device requests, TSA cannot ensure accountability in handling such requests and the availability of documentation for examination by Congress and other external parties.

Recommendations for Executive Action

In order to help ensure TSA's review and approval process for the use of any less-than-lethal weapons, including electric stun devices, is responsive, uniform, accountable, consistently applied and serves the public interest, we recommend that the Secretary of Homeland Security direct the Assistant Secretary, Transportation Security Administration, to take the following two actions, should commercial air carrier interest in deploying these devices resume:

- Ensure that there is sufficiently reliable research supporting the use of less-than-lethal devices being requested that, at a minimum, address the appropriateness of their usage in the unique aircraft environment, including passenger safety, how the use of these devices would enhance security, and the effects of these devices on the safe operation of the aircraft.
- Establish appropriate internal controls to govern air carriers' requests to deploy less-than-lethal weapons including electric stun devices on board their aircraft, including (1) clearly defining the organizational area or individual within TSA with the authority and responsibility for receiving and reviewing requests; (2) establishing a records system to help ensure accountability; and (3) formalizing and clearly communicating criteria for

approving requests both within the responsible area of TSA and to interested air carriers.

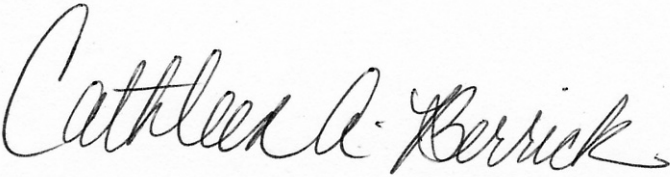
Agency Comments

We requested comments on a draft of this report from DHS, FAA and NIJ. FAA and NIJ provided technical comments, which have been incorporated in this report where appropriate. We received written comments from DHS on May 5, 2006. DHS agreed with our report and recommendations stating that our findings and recommendations will aid in the development of a more effective and efficient review process if interest by air carriers in less-than-lethal (LTL) weapons resumes at a future date. According to DHS, since our review, TSA has begun to establish the framework for a review process if additional applications for LTL weapons are received. For future LTL weapons applications, the Transportation Sector Network Management (TSNM) Airlines Division or the TSNM International Division will take the lead for domestic and international applications respectively. An evaluation working group, consisting of the Federal Air Marshal Service, Office of Chief Counsel, and other program offices, at the discretion of the administrator, will be involved in the review process. This group will provide their respective expertise and recommendations, with the lead office responsible for ensuring progress, resolving differences, and keeping diligent records of the review and ultimate approval or disapproval. The full text of DHS's comments is included as appendix II.

As agreed with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 18 days from the date of this report. At that time, we will send copies of this report to the Secretary of Homeland Security; the Director, Office Management and Budget; and any other interested parties. We will also make copies available to others upon request. In addition, the report will be available at no charge on GAO's Web site at <http://www.gao.gov>.

If you have any questions about this report or wish to discuss it further, please contact me at (202) 512-8777 or at berrickc@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. See appendix III for a list of major contributors to this report.

Sincerely yours,

A handwritten signature in black ink that reads "Cathleen A. Berrick". The signature is written in a cursive style with a large initial 'C' and a long, sweeping tail on the 'k'.

Cathleen A. Berrick
Director, Homeland Security and Justice

Appendix I: TSA's Proposed List of Criteria for Evaluating Less-than-Lethal Weapons requests

- Separate requests—There must be a separate request (application) for each type of LTL device that is proposed for use.
- Method of deployment must be articulated—Where and how will the LTL device be transported, utilized, and stored aboard aircraft.
- Aircrew selection—What are the air carrier's procedures to ensure that an unqualified crew member does not obtain access to the LTL devices? This would include crew members identified in need of anger management assistance.
- Well-documented incoming information—Incoming correspondence must be well documented and articulate clearly why a device that is being submitted for approval. The information contained must, at the very least, provide evidence that the product is known to the industry, with viable and recent studies and research supporting its use in the aircraft environment and that the product meets safety standards set by the Federal Aviation Administration.
- Threshold of protection—The correspondence must contain language that enumerates how an LTL device meets the threshold of protection for the cockpit, aircraft and passenger safety. It must include any completed studies on LTL devices and their use in the cockpit and cabin of the aircraft, the appropriateness for their usage in this unique environment and how it would not produce catastrophic failure of the aircraft.
- Enumerate procedures—The air carrier must clearly state its policy and the procedures it will employ, including legal considerations and similar issues. The air carrier would articulate the escalation/de-escalation for the use of force (Common Strategy and DOJ Use of Force Policy). This could include awareness of problem, deterrence, avoidance, verbalization, empty hand control, intermediate device (LTL device) and any other self-defense techniques.
- Procedures for the LTL device—The procedures for the use of an LTL device must accompany any written request explaining the process for use of a product. Details of procedures to ensure that any LTL device is not deployed on aircraft destined for international venues must be included.
- Training regimen—The air carrier must be able to articulate its training regimen and the manner in which pilots and/or flight attendants have been educated and trained on the requested device to be used and re-certification protocols. TSA's Office of Training and Quality Performance will review any proposal, make recommendations, and in conjunction with

**Appendix I: TSA's Proposed List of Criteria
for Evaluating Less-than-Lethal Weapons
requests**

Office of Aviation Operations, approve training manuals and processes associated with initial and re-certification training as a part of the carrier's request to employ LTL devices.

- Provide documented evidence—The requesting air carrier must provide documentary evidence, including testimony about the devices by subject matter experts. These should be attached to the carrier's proposal.
- Provide documentation of FAA approval—A letter from the FAA approving the use of an less-than-lethal device based on its meeting safety standards imposed by the FAA demonstrating that the device will not interfere, disturb, interrupt, or cause catastrophic failure to the avionics of the aircraft.

(Foregoing is TSA text.)

Appendix II: Comments from the Department of Homeland Security

U.S. Department of Homeland Security
Washington, DC 20528



**Homeland
Security**

May 8, 2006

Ms. Cathleen A. Berrick
Director, Homeland Security and Justice Issues
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

Dear Ms. Berrick:

Thank you for the opportunity to comment on draft report GAO-06-475, *Aviation Security: Further Study of Safety and Effectiveness and Better Management Controls Needed If Air Carriers Resume Interest in Deploying Less-than-Lethal Weapons*. Technical comments have been provided under separate cover.

The Department of Homeland Security (DHS) concurs with the recommendations and appreciates the time and resources that the Government Accountability Office (GAO) has devoted to this important review. The recommendations and findings of this report will aid in the development of a more effective and efficient review process if interest by air carriers in Less-than-Lethal (LTL) weapons regenerates at a future date.

Since GAO's review, TSA has begun to establish the framework for a review process if additional applications for LTL weapons are received. For future LTL weapons applications, Transportation Security Administration's (TSA's) Office of Transportation Sector Network Management (TSNM) Airlines Division or the TSNM International Division will take the lead for domestic and international applications, respectively. An evaluation working group, consisting of the Federal Air Marshal Service, Office of Chief Counsel, and other program offices, at the discretion of the Assistant Secretary, will be involved in the review process. This group will provide their respective expertise and recommendations, with the lead office responsible for ensuring progress to meet the congressionally required 90-day response time, resolving differences, and keeping diligent records of the review and ultimate approval/disapproval.

For the past application, TSA used the ten guidelines listed on pages 22-23 of the Report to Congress on Less-than-Lethal Weapons dated May 25, 2003. These guidelines are still appropriate and current. Were future LTL weapons applications to be received, TSA would take steps to formalize these guidelines into specific criteria for the LTL weapons application review process.

www.dhs.gov

As you are well aware, TSA currently has no applications from any air carrier, domestic or foreign, for an LTL weapons program. With recent organizational changes across the agency, TSA is now better prepared to work with its industry stakeholders and to utilize the GAO recommendations to more efficiently respond to and document any future LTL weapons program requests. TSA appreciates these findings, and will stand ready to implement them if air carriers resume interest in LTL weapons programs at a future date.

With regard to the draft report's specific recommendations, we submit the following:

Should commercial air carrier interest in deploying these devices resume, we recommend that the Secretary of Homeland Security direct the Assistant Secretary, Transportation Security Administration to take the following two actions:

Recommendation 1: Ensure that there is sufficiently reliable research supporting the use of less-than-lethal devices being requested that, at a minimum, address the appropriateness of their usage in the unique aircraft environment, including passenger safety, how the use of these devices would enhance security, and the effects of these devices on the safe operation of the aircraft.

TSA Concur. TSA agrees that sufficient reliable research supporting the use of less-than-lethal devices should be conducted. TSA is not responsible for certification of aircraft and aircraft systems. Future Less-than-Lethal (LTL) weapon applications would have to include appropriate documentation, research, etc., to support the air carrier's request and to demonstrate that the weapon would not have an adverse impact on the aircraft or aircraft systems. TSA will formally request the Federal Aviation Administration's (FAA) expert analysis and conclusions on any possible effects of LTL weapons or any other weapons deemed intrinsically dangerous, (specific weapons on the specific types of aircraft operated by the applicant carrier), and will approve or disapprove an application accordingly to ensure the safety and security of airline passengers.

Recommendation 2: Establish appropriate internal controls to govern receipt and review of air carrier requests, including: (1) clearly defining the organizational area or individual within TSA with the authority and responsibility for; (2) establishing a records system to help ensure accountability; and (3) formalizing and clearly communicating criteria for approving requests to employ less-than-lethal weapons including electric stun devices both within the responsible area of TSA and to interested air carriers.

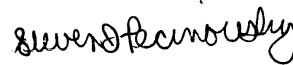
TSA Concur. For future LTL applications, TSA's Office of Transportation Sector Network Management (TSNM) Airlines Division or the TSNM International Division will take the lead for domestic and international applications, respectively. An evaluation working group, consisting of the Federal Air Marshal Service, Office of Chief Counsel, and other program offices, at the discretion of the Assistant Secretary, will be involved in the review process. This group will provide their respective expertise and recommendations, with the lead office responsible for ensuring progress to meet the

congressionally required 90-day response time, resolving differences, and keeping diligent records of the review and ultimate approval/disapproval.

For the past application, TSA used the ten guidelines listed on pages 22-23 of the Report to Congress on Less-than-Lethal Weapons dated May 25, 2003. These guidelines are still appropriate and current. Were future LTL weapons applications to be received, TSA would take steps to formalize these guidelines into specific criteria for the LTL weapons application review process.

Thank you again for the opportunity to comment on this draft report and we look forward to working with you on future homeland security issues.

Sincerely,



Steven J. Pecinovsky
Director, Departmental GAO/OIG Liaison Office

Appendix III: GAO Contact and Staff Acknowledgments

GAO Contact

Cathleen A. Berrick (202) 512-8777

Staff Acknowledgments

The following teams and individuals contributed to this report: William W. Crocker III, Assistant Director; Robert J. Rivas, J. Michael Bollinger, John P. Stradling, and Kathryn E. Godfrey, Homeland Security and Justice; David P. Alexander, Applied Research & Methodology; and Thomas F. Lombardi, Office of General Counsel

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