



POSITION STATEMENT

A4441/S4338 PERSONALIZED FIREARMS

CONCEPT

This proposal would mandate that all handguns manufactured or sold in New York after enactment would only be capable of being fired by the authorized user(s). A temporary state commission would be created for the purpose of establishing a performance safety standard. The commission would designate one or more independent laboratories to determine whether or not a proposed firearm complies with the standard.

The stated purpose of the proposal is to reduce the number of firearms related deaths and injuries by imposing design changes that would create a “personalized gun”¹. The focus is misuse of firearms by persons other than the owner, resulting in accidental shootings, particularly those involving children, suicide, or diversion to criminal use.

While noble in purpose, extensive research and development efforts by both government and the private sector have been unable to develop a technology that is both effective and reliable enough for even pilot testing. At the same time, the firearms accident rate, among both adults and children, has continued to drop to all time lows, as have firearm involved crime rates.

POSITION

This legislation should not be enacted. It proposes a defective solution to a problem that has been, and continues to be, addressed through means that are more effective and much less costly. While the proposal has a legitimate objective, the available technology is not suitable for the intended purpose. The result is a mandate that would serve solely as harassment for firearms owners.

This is not a new concept. The original impetus for research was provided by law enforcement officials concerned with officers being shot with their own handgun, referred to as a “take away” shooting. Based on concepts developed by the Sandia National Laboratories in 1996, The National Institute of Justice (NIJ), a part of the United States Department of Justice, funded a series of research projects over the 2001 to 2004 timeframe. A total of about \$12 million was spent on what was, for the most part, proof of concept research. In 2004, the National Academy of Engineering formed the Committee on User-Authorized Handguns to conduct a study that focused exclusively on the technical aspects of developing a UAHG. This study was completed in 2005.

¹ The terms “smart gun” or “personalized gun” are often used to describe this technology. This document uses the National Academies term “user authorized handgun” (UAHG), as it avoids inference of intelligence in smart gun and recognizes that there may be multiple authorized users.

While progress had been made in developing the components required for a UAHG, none of the projects had developed a system beyond the breadboard stage.² The conclusion of the committee was that the development of a UAHG poses serious engineering challenges that require technologies that are beyond the experience base of the firearms companies. While development of a conventional handgun would typically cost about \$3 million and take 3 years, the cost of bringing a UAHG to market could reach \$30 million and take 10 years³.

At the same time, interest in the concept on the part of law enforcement officials began to fade with the sharp reduction in take away shootings, primarily due to improved training and equipment. There never was much enthusiasm for the concept on the part of the law enforcement rank and file.

Firearms safety has been, and is being, effectively addressed through other means.

Deaths and injuries from accidents involving firearms of all types, not just handguns covered by this proposal, are at an all time low. In 2006, there were 680 accidental, firearms-related deaths nationwide. Fatal accidents have fallen over 70% since 1970 and 40% in the last decade, representing 0.6% of all accidental deaths. In fact, firearms accidents have been decreasing steadily since record keeping began in 1903. This has been accomplished by addressing the root cause – the behavior of the user.

Accidents involving children are a matter of special concern. Over the last 10 years, the number of firearms-related fatalities involving children less than 15 years of age has decreased over 61%. Nationwide, in 2006, the number of fatalities in this group was 54. Historically, in firearms accidents involving children, the shooter is most likely to be a male between the ages of 18 and 29 with a record of arrest for a crime of violence and a drug and/or alcohol problem.

These reductions were achieved through education and training programs conducted by the industry, national shooting sports organizations, youth organizations, and local gun clubs. Where appropriate, new technologies, such as external trigger locks, have been introduced.⁴

There is no correlation between firearms ownership and suicide.

The overall suicide rate is not related to the level of firearms ownership. Japan, with virtually a total prohibition on firearms ownership, has a suicide rate twice that of the United States. The same is true in Western Europe. France, Germany, Belgium, and Switzerland have higher rates, despite a variety of firearms laws that vary from virtual prohibition to liberal. The converse is also true; Italy, the United Kingdom, and the Netherlands have lower rates while having a similar range of regulation.⁵

² At the breadboard stage, the system replicates the function, but not the configuration, of the operational system in a simulated environment and is not suitable for field-testing.

³ National Research Council (2005). *Technology Options for User-Authorized Handguns*. Committee on User-Authorized Handguns. Washington, DC: National Academy Press. 1-7

⁴ The National Safety Council. *Injury Facts® 2009 Edition*. Itasca IL, National Safety Council

⁵ World Health Organization. (2009) <http://www.who.int/>

This remains an underdeveloped and unproven implementation of technology.

Despite the work done under the NIJ program, development has not progressed to the point of producing even a breadboard model. The extensive experience of manufacturers in the development of firearms technologies has allowed them to keep costs of conventional guns low. The development of a UAHG will require the integration of multiple technologies outside of their experience base. Furthermore, the work done is only on the developmental stage. No consideration has been given to the resources or costs involved in bringing to market a totally new technology with its unique manufacturing, service and support requirements. The industry has minimal financial capacity to support R&D on products for which there is no indication that a market exists.

There are a wide range of technical requirements and specifications that remain to be addressed:

- False Reject Rate – Will the firearm fail to function for an authorized user?
- False Acceptance Rate – How often will it function for an unauthorized user?
- Failure Mode – If the system fails, does it fail armed or unarmed?
- Ease of Compromise – How difficult is it to compromise the system?
- Authorization Speed – How fast will it recognize an authorized user?
- Multiple Users – Will the system accommodate multiple users?
- Environmental Impact – How will the system handle heat/cold, dirt, chemicals, etc.?
- Endurance Level – How long will it continue to function under heavy use and abuse?

There are other requirements but this list gives a flavor of the questions that have not yet been addressed outside of a laboratory.⁶

This legislation proposes to exempt law enforcement from the article.

Considering that the research and development effort on the UAHG has been driven by a requirement put forth by law enforcement officials, this would normally be surprising. That it is not reflects the actuality that rank and file law enforcement personnel are completely opposed to the concept. With the sharp reduction in takeaway shootings, there is little interest in adopting what has proven to be still a high-risk technology. It is inexcusable to attempt to saddle the private citizen, who could be equally dependent on their firearm, with a technology rejected by law enforcement as unreliable.

RECOMMENDATION

This legislation should be rejected. The technology still faces serious challenges before it is ready for introduction to the market. The fact that it has been found unacceptable by law enforcement only lends credence to this position. The problem of accidental shootings is being effectively addressed through education and training. This has proven very successful as shown by the steady drop in firearms related accidents over the last decade.

The fact that this proposal sets wholly unrealistic time frames, establishes only a temporary commission, and provides for no ongoing responsible agency for management of its mandates demonstrates a lack of understanding of the issue

⁶ National Research Council (2005). *Technology Options for User-Authorized Handguns*. Committee on User-Authorized Handguns. Washington, DC: National Academy Press. 26-27