



POSITION STATEMENT

A6252/S2741, A3200/S2953 & S0342 ENCODING AMMUNITION & REGISTERING SALES

THE CONCEPT

The purpose is to establish an investigative linkage between a bullet recovered at the scene of a firearms incident and the original purchaser. All bullets, in loaded ammunition or marketed separately as components, that are usable in handguns and/or assault rifles would be encoded with a marker that uniquely identifies the box or package in which it is intended to be delivered to the final purchaser. Using the proposed technology, the marker would be etched multiple times by laser on the base of the projectile. This identifier would then be coded on the exterior of the box or package so as to be readable visually or by a bar code reader at the point of sale.

OUR POSITION

This legislation should not be enacted. The technology is not commercially viable and the utility of the end product limited, at best.

This technology has not been sufficiently developed to mandate its use in a production environment. The implementation of emerging technologies, even on a limited basis, requires the use of the best standards process for demonstrating reliability and cost effectiveness. While this proposal may sound simple in concept, a closer examination shows that there are major questions that must be addressed and consequences to be considered before determining the viability of the proposed legislation.

Description of the technology.

The technology proposed for the implementation of this process calls for microengraving an alphanumeric code, repeated multiple times, in an array covering the base of the bullet – the part presumed most likely to avoid damage upon impact. The firm advocating this system, Ammunition Coding System¹ (ACS), claims that the code can be recovered if as little as 20% of the bullet base remains intact. ACS maintains that recovery would require no special training or equipment.

There is, however, no currently available equipment manufactured for microencoding or engraving a unique identifying mark on bullets in a production environment. ACS holds a patent on the system design but does not manufacture, sell, or service equipment to implement it. The principals in this firm, whose background is in real estate, also hold a patent on cast metal fixtures for installation on steps, ledges and benches that protect them from damage inflicted by skateboarders. ACS originally shared offices with the firm that markets these fixtures, Ravensforge Coneg².

¹ Ammunition Coding System, 10002 Aurora Ave N, Seattle WA 98133, www.ammocoding.com

² Ravensforge Coneg LLC, 4742 42nd Ave SW, Seattle WA, 98116 www.ravensforgeconeg.com

ACS's principal activities have been to establish a web site, www.ammocoding.com, publicizing the technology and to retain the governmental lobbying/public relations firm, Gordon, Thomas, Honeywell³ (GTH). GTH has established a second website, www.ammunitionaccountability.org, promoting legislation mandating the microencoding of ammunition. Legislation was introduced in 18 states during the 2008 legislative year, but none has been enacted. This web site does not identify its relationship with ACS or GTH. What ACS and GTH are doing is promoting legislation to compel the use of ACS's patented technology, for which no production equipment has ever been built, with the intention of collecting royalties on its use. When queried on this point, principal Russ Ford replied:

“Some protection is afforded inventors everywhere that have come up with ideas”⁴

This is an effort to mandate through legislation the implementation of an utterly unproven concept that would enrich the sole patent holder regardless of its success or failure.

Does the technology work? Can a bullet be uniquely encoded and the code retrieved after firing with a high degree of reliability?

The proposed system mandates the use of a single vendor system architecture employing a technology that has never been utilized in a production environment. No manufacturer has marketed a system for the microencoding of bullets. The efficacy of the proposed technology itself has never been the subject of peer-reviewed studies by qualified forensic professionals. While the proposal has had coverage in the popular press, it has not been the subject of any articles in relevant professional publications. This is an immature technology that clearly requires further research and testing.

Can the proposed system be economically implemented and operated?

We believe that the answer is no. The proposal would saddle the entire industry, and ultimately consumers, with unsustainable costs. Government would also face increased expenses separate from the administration of the system as law enforcement purchases between 7 and 10 percent of the civilian ammunition produced in the United States

The specific processes followed by each manufacturer vary, but they all use modern manufacturing processes to maintain the highest possible productivity consistent with safe operating practices. Bullets are typically produced in batches, held in bulk, and fed to the loading operation as needed. A specific bullet may be utilized in more than one product. FBI research in an unrelated study⁵ found that a single box of ammunition could contain bullets from as many as 14 compositional groups.

Ammunition is loaded in lots of up to 1 million rounds with the bullets being fed into the loading machine in bulk. As this obviously involves the presence of potentially explosive primers and highly flammable propellant, the introduction of laser etching at this point

³ Gordon, Thomas, Honeywell, Wells Fargo Plaza, Tacoma WA 98401 www.gth.com

⁴ Laura Onstot, (2008, March 5). *Three Seattle Guys Want to Bar-Code Bullets*. Seattle Weekly

⁵ National Research Council (2004). *Forensic Analysis Weighing Bullet Lead Evidence*. Committee on Scientific Assessment of Bullet Lead Elemental Composition Comparison. Washington, DC: National Academy Press.

would be a major safety issue. Manufacturing ammunition in lots of 20 to 100 rounds, as this proposal would require, would mandate a very costly reengineering of production facilities, essentially replacing the efficiencies of mass production with piecework.

The development and operation of a system to track each box of ammunition or bullets from the point of manufacture to retail purchase would be a massive endeavor with significant logistical costs incurred at each step. Civilian ammunition sales in the United States exceed 10 billion rounds per year. A database to track each box of ammunition would contain well over 600 million records for each year.

The development and operation of a massive data collection and storage system would be required in both the commercial and government sectors.

Manufacturers would be required to register with the New York State Police (NYSP) and would be required to maintain records of all sales or transfers to, from, or within New York State. The specific information to be retained is not specified in the proposed legislation but would be prescribed by the NYSP. The records retention period would be 7 years.

Retail vendors would also be required to register with the NYSP. For each ammunition or bullet sale, the vendor would be required to record the purchaser's name, date of birth, driver license number (or other government issued identification), as well as the identifier from each ammunition or bullet package. This information would be registered with the NYSP. The vendor records retention period would be 3 years.

No provision is made for jobbers, wholesalers, or any other intermediary.

The NYSP would be responsible for establishing and maintaining a database containing the vendor sales information and ammunition coding data. Access to the information would be restricted to law enforcement personnel and released only in connection with a criminal investigation. No retention period is specified for this database.

New York State's costs would, in theory, be covered by a \$.005 per bullet tax.

Possession or sale of non-coded ammunition would be illegal after a grace period of about one year (Class A Misdemeanor). The A6242/S2741 does not provide an exemption for law enforcement or other governmental purchases.

Will the system provide useful information to law enforcement?

The potential for providing useful information is, at best, very limited. The functionality of the system is dependent upon the perpetrator being the retail purchaser or an identifiable associate of the purchaser. As such individuals are more likely to obtain their supplies through theft, abandonment, or underground sales, this is problematic. Anyone seriously desiring to evade the system could easily do so by defacing commercial ammunition or making his or her own bullets. Coupled with the vast supply of unencoded ammunition already in the public domain and the limited potential for providing useful information to law enforcement even if the system works as intended, this does not appear to be an effective investigative tool. At the end of the day, ammunition is a fungible item, not amenable to tracking on a unit basis.

How will this effect private individuals who handload their own ammunition?

Thousands of shooters load their own ammunition in order to reduce costs, improve performance, or produce loads not commercially available. They either purchase bullets from a variety of manufacturers, large and small, or make their own. There is no provision in this proposal for these practices other than to register as a manufacturer with its record keeping and reporting requirements.

RECOMMENDATION

These bills should not be enacted.

The microencoding of bullets has not been demonstrated to be a viable technology. There is no equipment manufactured to implement it on a production scale and the technology itself has not been subject to any peer-reviewed study by qualified forensic professionals. It can at best be considered an emerging technology requiring research employing a mature scientific methodology before any determination can be made as to its effectiveness. At present, even if the functional issues are addressed, the economic impact of scaling up to a production environment is staggering.

The National Research Council touched on these issues in its review of ballistic imaging:

However, it is also abundantly clear that substantial further research would be necessary to inform a thorough assessment of the viability of microstamping either gun parts or bullets. Particularly necessary would be credible estimates of the real cost of implementation, separating initial configuration costs from other life-cycle costs, that accurately take into account the reengineering of existing firearms and ammunition production lines.⁶

This is clearly an attempt to legislate an ideal based solely on the unproven claims of a single vendor.

⁶ National Research Council (2008). *Ballistic Imaging*. Committee to Assess the Feasibility, Accuracy and Technical Capability of a National Ballistics Database. Washington, DC. National Academy Press