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11 IN THE UNITED STATES DISTRICT COURT
12 FOR THE EASTERN DISTRICT OF CALIFORNIA

13 IVAN PENA, et al.,

14 Plaintiffs,

15 v.

16 STEPHEN LINDLEY,

17 Defendant.

CASE NO: 2:09-CV-01185-KJM-CKD

**DECLARATION OF LAWRENCE G.
KEANE**

DECLARATION OF LAWRENCE G KEANE

1. My name is Lawrence G. Keane. I am over 18 years of age and if called to testify I can and will competently provide information concerning the following.
2. I am Secretary and General Counsel to the Sporting Arms and Ammunition Manufacturers' Institute ("SAAMI"). I am also the chairman of the SAAMI Legislative and Legal Affairs Committee.
3. Formed in 1926 at the request of the Federal government, SAAMI is a Connecticut based, not-for-profit, tax exempt 501(c)(6) association of the nation's leading manufacturers of firearms, ammunition, propellants and components. SAAMI routinely publishes voluntary industry standards and technical data related to firearms and ammunition to promote safe firearm practices. The American National Standards Institute ("ANSI") has accredited SAAMI as a standards development organization ("SDO") for the firearm industry's test methods, definitive proof loads, and ammunition performance standards. SAAMI is the nation's leading authority with respect to firearms and ammunition technical matters.
4. I am also Senior Vice President, Assistant Secretary, and General Counsel to the National Shooting Sports Foundation ("NSSF"). NSSF is the trade association for America's firearms, ammunition, hunting and recreational shooting sports industry. NSSF is a Connecticut based 501(c)(6) tax exempt, nonprofit corporation. NSSF's mission is to promote, protect and preserve hunting and the shooting sports. Founded in 1961, NSSF's membership includes more than 10,000 federally licensed firearms and ammunition manufacturers, distributors and retailers, companies that manufacture, distribute and sell shooting and hunting related goods and services, public and private shooting ranges, and sportsmen's organizations, individual hunters and recreational target shooters. Many NSSF members reside in the State of California. NSSF's members sell the firearms and ammunition used by the United States military and by federal, state and local law enforcement personnel, including California law enforcement agencies, to protect the national security of the United States and to keep American communities safe. NSSF's members sell semi-automatic pistols, and other firearms, ammunition and related products to hunters, sportsmen and gun owners throughout the United States, including California residents, who use those firearms for self-protection and other lawful purposes. NSSF members provide the lawful commerce in firearms and ammunition that makes the exercise of Second Amendment rights possible. The provisions of California law at issue in this case have a direct and material effect on the lawful commerce in firearms.
5. Through my association with both SAAMI and NSSF I am familiar with federal and state laws, including California's Unsafe Handgun Act ("UHA"), its history, requirements, and its effect on firearm manufacturers, dealers, distributors, and the general public. Through my association with SAAMI and NSSF I am familiar both with the California Department of Justice's interpretations of the UHA and how it implements and enforces

those interpretations.

6. The UHA requires handguns to be tested and to be equipped with certain mechanical features before they can be lawfully sold to the California public by licensed firearms dealers.¹ Once a handgun passes the required tests and is equipped with the required mechanical features it can be placed on the “Roster of Handguns Certified for Sale” (“Roster”).² Generally, if a handgun does not appear on the Roster, it cannot be sold to the general public by a licensed firearms dealer in California.³
7. When the UHA’s Roster requirement was first enacted, handguns needed to pass the testing set forth in then-California Penal Code sections 12127 and 12128 (2001) (i.e., drop testing and test firing) and to be equipped with certain mechanical features.⁴ Senate Bill 15 (Polanco)(1999). This became a requirement on Jan 1, 2001.
8. In 2003, Senate Bill 489 (Scott) passed requiring that, as of January 1, 2006, before any centerfire semiautomatic pistol could be added to the Roster, it must have either a “chamber load indicator” that indicates a cartridge is in the firing chamber or a “magazine disconnect mechanism” that prevents the pistol from operating to strike the primer of ammunition in the firing chamber when a detachable magazine is not inserted in the pistol.⁵ The bill also required, commencing January 1, 2007, all centerfire semiautomatic pistols to have both of these features before they could be added to the Roster. This bill also required, as of January 1, 2006, rimfire semiautomatic pistols to have a magazine disconnect mechanism, if the pistol possessed a detachable magazine.

¹ California Penal Code § 31900, et seq. All references to code sections are to the 2014 California Penal Code unless otherwise indicated.

² The website for the Roster may be viewed at <http://certguns.doj.ca.gov> (Last visited June 29, 2014).

³ There are limited exceptions to the UHA’s requirement, most notably for sales to members of law enforcement and military. Cal. Pen. § 32000(b)(4). Additionally, used handguns that are not on the Roster, may be transferred between private parties, pawned, and between immediate family members and spouses. Cal. Pen. § 32110(a), (b), and (f).

⁴ In 2010, California adopted Senate Bill 1080 (2010), which reorganized the numbering and content of certain statutes in the Penal Code concerning the regulation of firearms without changing them substantively. Currently, these statutes can be found in Cal. Penal Code Pt. 6, Control of Deadly Weapons For revolvers: The handgun had to have a safety device that, either automatically in the case of a double-action firing mechanism, or by manual operation in the case of a single-action firing mechanism, causes the hammer to retract to a point where the firing pin does not rest upon the primer of the cartridge. For pistols: The handgun must have a positive manually operated safety device, as determined by standards relating to imported guns promulgated by the federal Bureau of Alcohol, Tobacco, Firearms, and Explosives. Cal. Penal Code § 31900.

⁵ Cal. Penal Code § 31910 (originally found in subsections (a) & (b) of Cal. Penal Code § 12126).

Microstamping

9. Since 2010, California law has required that in order for a new model semiautomatic pistol to be placed on the Roster for sale in California it must be "designed and equipped with a microscopic array of characters that identify the make, model, and serial number of the pistol, etched or otherwise imprinted in two or more places on the interior surface or internal working parts of the pistol, and that are transferred by imprinting on each cartridge case when the firearm is fired, provided that the Department of Justice certifies that the technology used to create the imprint is available to more than one manufacturer unencumbered by any patent restrictions." Penal Code Section 31910(b)(7)(A).⁶
10. This "microstamping" requirement, however, did not go in to effect on January 1, 2010 because the California Department of Justice had not certified, as required by the law, that "the technology used to create the imprint is available to more than one manufacturer unencumbered by any patent restrictions."
12. On May 17, 2013, the California Department of Justice certified that microstamping technology was unencumbered by any patent restrictions. See attached Exhibit A.
13. The Attorney General's certification triggered the requirement that any new semiautomatic pistol model be designed and equipped with microstamping technology as a prerequisite for it to be accepted for testing to be added to the Roster.

"Similar Handgun" Exemption

14. Every year a firearm manufacturer must renew each handgun's place on the Roster by paying an annual fee. Cal. Pen. § 32015(b)(2). In addition to the fee, DOJ requires each manufacturer to certify under penalty of perjury that each firearm was not modified in any way from the firearm that was tested or listed as "similar" and that the information concerning the firearm (the make, model, caliber, barrel length, material(s)) is correct. If the handgun is modified or the information is incorrect the manufacturer must specify the modification or correct the information. (See attached Exhibit B, "Department of Justice Handgun Roster Listing Fee Renewal Request.") DOJ may retest up to 5% of the handguns on the Roster and remove them should they fail retesting. Cal. Pen. § 32030.
15. Firearms already on the Roster before the implementation of each new additional "mechanical requirement" (i.e., chamber load indicator, magazine disconnect, and microstamping) were "grandfathered"⁷ and do not need the additional mechanical

⁶ The "microstamping" requirement was originally codified in section 12126. However, pursuant to Senate Bill 1080 (2010) section 12126 was repealed and reenacted without substantive change as section 31910.

⁷ See sections 12126(b)(4)-(6) (2004) and 31910(b)-(7) (2014), stating those pistols

features, provided their place on the Roster was maintained by payment of the required annual fees and execution of certifications.⁸

16. The only handguns the UHA allows to be added to the Roster without them being equipped with its "mechanical requirements" (chamber load indicator, magazine disconnect mechanism, and microstamping) are those that are virtually identical to a handgun already on the Roster, except for certain limited cosmetic differences. Cal. Pen. § 32030.
17. More specifically, Section 32030 states that a handgun does not need to be tested in order to be put on the Roster if "another firearm made by the same manufacturer is already listed [on the Roster] and the unlisted firearm differs from the listed firearm only in one or more of the following features:
 - (1) Finish, including, but not limited to, bluing, chrome-plating, oiling, or engraving.
 - (2) The material from which the grips are made.
 - (3) The shape or texture of the grips, so long as the difference in grip shape or texture does not in any way alter the dimensions, material, linkage, or functioning of the magazine well, the barrel, the chamber, or any of the components of the firing mechanism of the firearm.
 - (4) Any other purely cosmetic feature that does not in any way alter the dimensions, material, linkage, or functioning of the magazine well, the

"already listed on the roster pursuant to Section 12131 [or Section 32015, as section 12131 was renumbered],..." are not considered "unsafe handguns" without possessing the "mechanical requirements" after the date each requirement became effective. (As awkward as the double negative sounds, that is exactly how it is phrased in the Penal Code).

⁸ See section 32015(b)(2). "If the manufacturer/importer or other responsible person fails to comply with these renewal requirements [referring to the annual renewal], the handgun model listing shall expire by operation of law at midnight on the date of expiration of the listing and the model will be removed from the Roster." 11 CCR § 4071(d). In order to be placed back on the Roster a handgun would need to pass the testing requirements and possess the mechanical features that the UHA currently requires for eligibility on the Roster. Cal. Pen. §§ 31910, 32010, and 32015. Put more simply, those handguns would no longer be "grandfathered" and would be deemed immediately and permanently "unsafe" for failure to pay the state a fee, but if the fee was paid they would be deemed "not unsafe."

barrel, the chamber, or any of the components of the firing mechanism of the firearm.”⁹

18. In firearm industry parlance this is known as the "similar handgun" exception. Manufacturers who wish to add a "similar handgun" to the Roster shall "provide to the [California] Department of Justice all of the following:

- (1) The model designation of the listed firearm.
- (2) The model designation of each firearm that the manufacturer seeks to have listed under this section.
- (3) A statement, under oath, that each unlisted firearm for which listing is sought differs from the listed firearm only in one or more of the ways identified in subdivision (a) and is in all other respects identical to the listed firearm.”¹⁰

Handguns Currently on the Roster

19. The scope of the "similar handgun" exemption is very narrow. As explained above, manufacturers must provide an annual certification to the California DOJ for handguns on the Roster detailing any changes to a listed handgun. In my capacity with SAAMI and NSSF, I have learned that it is the California DOJ's position that handguns currently on the Roster will be considered "new models" if they have the slightest modification (beyond mere cosmetics), no matter how minor. Accordingly, in order for them to remain on the Roster they must be retested for compliance with all of the UHA's respective requirements, which now include microstamping, chamber load indicator and magazine disconnect. So, for example, if a manufacturer of a semiautomatic handgun model that has been on the Roster since 2004 outsources a single, minor component part for the pistol from a different vendor who uses a different manufacturing process, e.g. metal injection molding (MIM) versus forging, to make the part, DOJ considers that handgun to be a "new model." Another example, a manufacturer figures out a metallurgical way to make a component part stronger, more durable and reliable with less metal and consequently the part's dimensions change. DOJ would deem that handgun a "new model." In both examples in order to be eligible for the Roster the semiautomatic pistol would have to be equipped with microstamping, as well as a magazine disconnect mechanism and a chamber load indicator.

20. As a result, since May 16, 2013, unless a manufacturer keeps frozen the precise design and manufacturing process of its pistols on the Roster and has not altered any aspect of it beyond mere cosmetics, a semi-automatic pistol is ineligible to be sold in California

⁹ § 32030(a)

¹⁰ § 32030(b)

without being equipped with microstamping.¹¹ This creates a dilemma because it is a natural part of the manufacturing process of any product to make minor improvements and enhancements to a product and the manufacturing process to increase efficiencies, reduce cost, and to improve durability, safety and reliability---handguns are no exception--but handgun manufacturers cannot to do so because it is impossible for them to meet the UHA's then applicable microstamping requirements.

21. To date, I am not aware of a single handgun manufacturer worldwide that has produced a functioning, commercially available semiautomatic pistol designed and equipped with "a microscopic array of characters that identify the make, model, and serial number of the pistol" etched or otherwise imprinted in two or more places on the interior surface or internal working parts of the pistol, and that are transferred by imprinting on "each cartridge case when the firearm is fired." I am unaware of any handgun manufacturer who has attempted, or is even considering trying, to design and equip a semiautomatic pistol incorporating this technology. NSSF and SAAMI handgun manufacturers have informed me and stated publicly that they cannot comply with California's microstamping requirements and have no plans to attempt to do so. The reason is simple, microstamping does not work.
22. Independent, peer-reviewed studies, including ones by the inventor of microstamping, Todd Lizotte, have confirmed that firearm microstamping is unproven and unreliable to perform in the manner that the UHA requires. It is incapable of consistently and reliably imprinting a complete and fully legible "microscopic array of characters that identify the make, model, and serial number of the pistol" on "each cartridge case when the firearm is fired." It certainly cannot produce the required markings at two locations on the cartridge case, as required by the law. In fact, firearms microstamping technology does not leave any mark at all on the cartridge casing, rather the incomplete and illegible markings are left on the primer, which is a separate part of a cartridge of ammunition.¹²
23. A study by Prof. George G. Krivosta titled "NanoTag Markings from Another Perspective," published in the Winter 2006 edition of the Journal of the Association of Firearms and Toolmarks Examiners (Volume 38, Number 1), found that "the weapon producing the highest percentage of readable impressions was incapable of firing three shots in a row." This is problematic because in order to be eligible for listing on the Roster, the UHA requires that each of three identical pistols "[f]ires the first 20 rounds without a malfunction that is not due to ammunition that fails to detonate." § 31905(c)(1).

¹¹ This same issue presented itself earlier when successive additional mechanical requirements were added to law, i.e. magazine disconnect mechanism and chamber load indicator. The difference now is that, as explained herein, it is simply impossible for a manufacturer to comply with the UHA's microstamping requirement.

¹² See SAAMI Glossary of Terms <http://www.saami.org/glossary/> (last visited on July 7, 2014) defining a "cartridge" a "single round of ammunition consisting of the case, primer and propellant with or without one or more projectiles..." and defining separately the components including "cartridge case" and "primer."

1 Prof. Krivosta's study concluded that "[c]ertainly this research has shown that
2 implementing this technology will be much more complicated than burning a serial
3 number on a few parts and dropping them into firearms being manufactured," and urged
4 further research. See attached Exhibit C.

5 24. In a study published in 2008 by U.C. Davis titled "What Micro Serialized Firing Pins Can
6 Add to Firearm Identification in Forensic Science: How Viable Are Micro-Marked Firing
7 Pin Impressions as Evidence?," the authors David Howitt, Ph.D., Frederic A. Tulleners
8 and Michael T. Beddow of the Forensic Science Graduate Group at the University of
9 California at Davis explained that their testing showed that "[t]he legibility and quality of
10 the micro-stamped characters . . . varied among the set of firearms tested" and that
11 different firing pins varied in how they retained the microstamp imprint after use. The
12 U.C. Davis study concludes that "because its forensic potential has yet to be fully
13 assessed, a mandate for the implementation of this technology in all new semi-automatic
14 handguns sold in the State of California is counter-indicated." See attached Exhibit D.

15 25. A 2008 study published by the National Research Council ("NRC") titled "Ballistic
16 Imaging, National Academies' Committee to Assess the Feasibility, Accuracy and Technical
17 Capability of a National Ballistics Database," found that:

18 for such a technology to be implemented successfully, in-depth
19 investigations on several topics are needed. These topics include the
20 reliability and durability of the marks in a variety of firing conditions,
21 their susceptibility to tampering and countermeasures, whether it would be
22 best to place them on guns or ammunition or both, and the cost
23 considerations and feasibility of adding a microstamping process to
24 established manufacturing processes.

25 As the NRC committee's report explains, Todd Lizotte made a presentation on this
26 technology to the committee prior to the publication of that committee's report ("Todd
27 Lizotte of Hitachi Via Electronics attended a committee meeting and generously spent
28 time discussing the microstamping of firing pins and other firearm parts at his facility in
Londonderry, New Hampshire." at R14).

29 26. In light of the important questions raised in the various studies about microstamping's
30 unreliability and infeasibility, SAAMI and NSSF have both consistently called for a
31 comprehensive federal study to address those questions before microstamping should be
32 mandated. Their legitimate concerns have been vindicated by the very inventor of
33 firearm microstamping technology, Todd Lizotte, when he conceded in his article,
34 "Clarity of Microstamped Identifiers as a Function of Primer Hardness and Type of
35 Firearm Action" that "it is apparent that legitimate questions exist related both to the
36 technical aspects, production costs, and database management associated with
37 microstamping that should be addressed before wide scale implementation is legislatively
38 mandated." This article appeared in the Spring 2012 edition of the AFTE Journal

(Volume 44 Number 2), approximately a year and a half *after* Penal Code section 31910, subdivision (b)(7)(A) (the microstamping requirement) was enacted. See attached Exhibit E.

27. This means that Mr. Lizotte did not believe his invention was ready to be commercially mandated at the time the microstamping requirement became effective in May of 2013 with California Department of Justice's certification. And, Mr. Lizotte has since stated in a subsequent study in the Winter 2013 edition of the AFTE Journal (Volume 45, Number 1), titled "Gear Code Extraction from Microstamped Cartridges," that "complete recognition is still not possible in all cases." See attached Exhibit F. But the UHA requires that each of three handguns of the same model seeking to be added to the Roster not only produces complete and fully legible microstamp markings on the first two casings they fire, but also that each produces such markings on two additional casing after each has been fired over 600 times, and that the markings are double checked for accuracy. California Code of Regulations, Title 11 § 4060(h). In other words, the UHA requires that there be complete recognition in all cases during testing; a feat the independent studies demonstrate and the inventor Mr. Lizotte now admits is not possible.
28. The Department of Justice's certification in May of 2013 was merely that Mr. Lizotte's microstamping technology "is available to more than one manufacturer unencumbered by any patent restrictions." This certification was not a determination or assessment by California DOJ that the technology actually works in the manner the statute requires. Many things that cannot actually be done have been patented. Nor is it a certification that the technology can reliably produce California's desired effect, provide law enforcement with an additional tool to solve crimes.¹³ I am unaware of a single study by any criminologist suggesting that microstamping would be an effective law enforcement tool.
29. The Krivosta and U.C. Davis studies demonstrate that the shallow¹⁴ microscopic markings micro-laser engraved or etched on to the tip of a firing pin can be easily removed from the firing pin in mere seconds using something as common and simple as an emery board or sandpaper. In other words, those seeking to perform criminal acts with a handgun could easily prevent their handguns from leaving an identifying mark on casings. See also Dorothy Kenney, *Firearm Microstamp Technology: Failing Daubert and Federal Rules of Evidence 702*, 38 Rutgers Computer & Tech L.J. 199(2012).
30. The firing pin is the most commonly damaged, e.g. chipped, and replaced part of a firearm. After-market replacement parts are widely available, including firearm pins. A microstamped firing pin can be removed and replaced, either as a common repair or for the purpose of evading the "technology," very quickly, easily and inexpensively.

¹³ See Assem. Floor Analysis, Assem. Bill No. 1471, as amended July 11, 2007 p. 3.

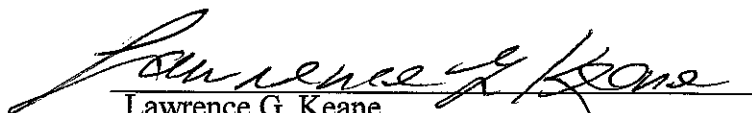
¹⁴ The markings are only 25 microns in depth, or about half the diameter of a human hair.

31. In sum, the UHA now requires new semi-automatic pistol models or existing models with minor improvements to be designed and equipped with a microstamping technology that independent research conclusively proves, and the inventor himself concedes, does not work as mandated. Because the microstamping requirement cannot be complied with, it is currently preventing scores of manufacturers, distributors and retailers from selling many semi-automatic pistol models in the State of California that are widely available in more or less every other state of the Union, because any such sales would subject them to criminal prosecution under California Penal Code section 32000, subdivision (a). It also denies to California consumers innovations for durability, safety and reliability of handgun models. They can only purchase those handguns on the Roster. But manufacturing is not a stagnant process for any industry, including firearms manufacturing. Manufacturers must, and will, make normal enhancements and improvements to the design and manufacturing process of their pistols. What will, and already is happening over time is that California residents will not be able to purchase the newest, most durable, reliable and safer handguns on the market that are available to consumers outside of California. This is not a theoretical problem. Major manufacturers of some of the most popular and reliable handguns in the country, like Sturm-Ruger & Co. and Smith & Wesson, have already announced they will not be able to continue to sell many of their handgun models in California because of the microstamping requirement. (Declarations from both manufacturers to that effect have previously been supplied to this Court). Companies have actually stopped doing business in California because of that requirement, not because they wished to cease operations there.

32. Over time more and more manufacturers will inevitably do the same, which means fewer and fewer pistol models being available to consumers in California, as federal law makes it illegal to purchase a handgun across state lines. 18 U.S.C. §§ 922(a)(3), 922(b)(3). So California residents have no other source of handguns. Many groups explained to the legislature and then Governor Schwarzenegger in 2007 when Assembly Bill No. 1471 (Feuer) was being considered, that the microstamping requirement would constitute a de facto ban on handguns in California and they were correct.

I declare under the penalty of perjury under the law of the State of California that the foregoing is true and correct.

Executed this 7th day, of July 2014, at Newtown, Connecticut.


Lawrence G. Keane

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