



United States
CONSUMER PRODUCT SAFETY COMMISSION
Bethesda, Maryland 20814

MEMORANDUM

DATE: September 12, 2006

TO : OGC

Through: Todd A. Stevenson, *BA* Secretary, OS

FROM : Martha A. Kosh, OS *mak*

SUBJECT: Amendment to Fireworks Safety Standards; Advance Notice of Proposed Rulemaking: Request for Comments and Information

ATTACHED ARE COMMENTS ON THE CH 06-4

<u>COMMENT</u>	<u>DATE</u>	<u>SIGNED BY</u>	<u>AFFILIATION</u>
CH 06-4-1	7/04/05	M.E. Simpson	5207 N.W. Sherwood Dr. Lawton, OK 73505
CH 06-4-2	7/05/06	Kha Torres	khatores@yahoo.com
CH 06-4-3	7/05/06	N. Searle	dnsearle@comcast.net
CH 06-4-4	8/04/06	E. Ouellette President	American Academy of Pediatrics Dept of Federal Affairs Homer Bldg, Suite 400 N 601 13 th St, NW Washington, DC 20005
CH 06-4-5	8/07/06	Steve Smith President	Lost Yankee Enterprises steve@lostyankee.biz
CH 06-4-6	8/10/06	Patrick Cook General manager	Galaxy Fireworks, Inc. 204 E. M.L. King Jr. Blvd Tampa, FL 33603
CH 06-4-7	8/10/06	G. Forster	George.Foster@halliburton.com
CH 06-4-8	8/18/06	J. Marietta, Jr Co-owner	Jake's Fireworks, Inc. 2311 A West 4 th St Pittsburgh, KS 66762
CH 06-4-9	8/18/06	Ben Turner	Pacific Northwest P.O. Box 1106 McKenna, WA 98558
CH 06-4-10	8/20/06	Noel Braun	Wild Bill's Fireworks 321 Valley Park Dr. Branson, MO 65616

Amendment to Fireworks Safety Standards; Advance Notice of Proposed Rulemaking: Request for Comments and Information

CH 06-4-11	8/21/06	Mike Singletary	Fireworks Supercenter 107 Creek View Ct. Weatherford, TX 76088
CH 06-4-12	8/21/06	Larry Hale Operations Mgr.	Wholesale Fireworks Enterprises, LLC 1611 W. Ledgerwood Dr. Andover, KS 67002
CH 06-4-13	8/22/06	J. Marietta	Far East Imports, Inc. 5521 N Main Joplin, MO 64801
CH 06-4-14	8/28/06	J. MacLennan	macselec@comcast.net
CH 06-4-15	8/28/06	E. Middendorf	B&B Fireworks 451 Johnson Dr. Russellville, KY 42276
CH 06-4-16	8/31/06	Consumer	FerPeteSak@aol.com
CH 06-4-17	9/05/06	Jon Nisja President	International Fire Marshals Association 1 Batterymarch Park Quincy, MA 02269
CH 06-4-18	9/06/06	R.J. Pelon	rj_pelon@hotmail.com
CH 06-4-19	9/06/06	V. Scarpello	scarp9603@yahoo.com
CH 06-4-20	9/06/06	Hoyt Graham	Atlas Importers, Inc. Atlasimporters@aol.com
CH 06-4-21	9/06/06	Jason Skins	Skinsjason@aol.com
CH 06-4-22	9/07/06	Debbie R-Gord President	Thunder Fireworks, Inc. 5207 187 th Street E Tacoma, WA 98446
CH 06-4-23	9/07/06	B. Yeager	yeagerb@madisontelco.com
CH 06-4-24	9/07/06	James Shannon President & CEO	National Fire Protection Association 1 Batterymarch Park Quincy, MA 02169
CH 06-4-25	9/08/06	Ralph Apel President	Black Cat Marketing, USA 5200 W 94 th Terrace Suite 112 Prairie Village, KS 66207
CH 06-4-26	9/08/06	Bill Morrison	blmrs2002@yahoo.com

Amendment to Fireworks Safety Standards; Advance Notice of
Proposed Rulemaking: Request for Comments and Information

CH 06-4-27	9/09/06	Karen Metcalf	<u>thefireworkslady@gmail.com</u>
CH 06-4-28	9/10/06	S.J.	<u>littleczr@yahoo.com</u>
CH 06-4-29	9/10/06	Thomas Handel First Vice- President	Protechnics Guild International, Inc. 628 Harberts Ct. Annapolis, MD 21401
CH 06-4-30	9/11/06	Julie Heckman Exec. Director	American Pyrotechnics Association 7910 Woodmont Ave. Suite 1220 Bethesda, MD 20814
CH 06-4-31	9/11/06	Joe Martin	<u>fireworks@bellsouth.net</u>
CH 06-4-32	9/11/06	Jared Hicks	<u>jaredhi@hotmail.com</u>
CH 06-4-33	9/11/06	Mark Bolinger	<u>markcbolinger@hotmail.com</u>
CH 06-4-34	9/11/06	Brian Hamilton	<u>brian@jakesfireworks.net</u>
CH 06-4-35	9/11/06	Melissa Crawford	<u>SkyKingMel@aol.com</u>
CH 06-4-36	9/11/06	Aaron Pfeifer	<u>Stifflfer808247@aol.com</u>
CH 06-4-37	9/11/06	Chris Yozwiak	<u>cyozwiak@netzero.net</u>
CH 06-4-38	9/11/06	R. Spellman	<u>rachelle_spellman@hotmail.com</u>
CH 06-4-39	9/11/06	Andrew Webb	499 River Rd Otsego, MI 49078
CH 06-4-40	9/11/06	Jim Ramsey	<u>jimvtx@gmail.com</u>
CH 06-4-41	9/11/06	John Rogers Exec. Director	American Fireworks Standards Laboratory 7316 Wisconsin Ave. Suite 214 Bethesda, MD 20814
CH 06-4-42	9/12/06	Kirk Myers	<u>myerspyro@aol.com</u>
CH 06-4-43	9/12/06	Charles Weeth	Weeth & Associates, LLC 122 17 th St S La Crosse, WI 54601

Fireworks
Committee /

C

5207 N.W. Sherwood Dr.
Lawton, Oklahoma 73505
July 4, 2006

O

Senator Jim Inhofe
U. S. Senate
Washington, DC 20510

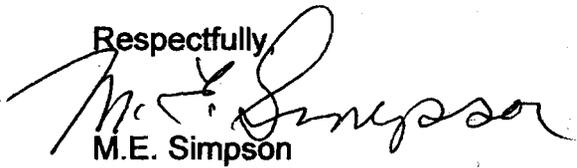
Dear Senator:

May I rise with profound indignation for the behavior of the Consumer Products Safety Commission for their tyrannical decision to launch a process that would remove fireworks from public sale. We are not interested in living in a state that regulates everything. I don't like seat belt laws, helmet laws or fireworks ban laws. Living in a ralph nader state with everything sterile and absolutely safe would be unacceptable. We are an adventurous people. That is why some of us enjoy skydiving.

P

At this point, I would be most happy if you would write legislation that would abolish Consumer Products Commission or at the very least, impeach them all, unanimously. I should like to describe this bunch of liberal democrats in the most vile and disgusting of epithets. But,....once you call them liberal democrats, nothing else is more disgusting than that.

Respectfully,



M.E. Simpson
Republican voter

Y

Hiker falls 75 feet, 3A

Man sells authentic native outfits, 1B

Mitchell wins Firecr

THE LAWTON CONSTITUTION

TUESDAY, JULY 4, 2006

THE SOURCE FOR INFORMATION IN SOUTHWEST OKLAHOMA • www.lawton-constitution.com

Regulators want to take fire out of the Fourth

WASHINGTON (AP) — On the eve of the nation's noisiest holiday, the Consumer Product Safety Commission responded to growing fireworks injuries by quietly reopening the question of how it should police explosives for backyard entertainment.

Without a public meeting, the three commissioners voted unanimously by ballot late Friday to begin a study of whether to tighten their regulation of fireworks, commission spokesman Scott Wolfson announced Monday. Their notice seeking public comment will appear in the Federal Register.

The notice cited a disturbing increase in injuries and a decrease in compliance with safety regulations since the first major regulation of fireworks in 1976.

"It's worth pursuing an effort to make sure we can once again drive fireworks sales," Wolfson said.

The commission's just-released study of fireworks injuries in 2005 estimated 10,800 people required emergency room treatment. That figure has risen steadily since an estimated 8,000 required treatment in 2002.

The figures show a small but steady rise in firework injuries compared with the nation's growing population: from 2.6 injuries per 100,000 people in 1996 to 3.6 per 100,000 in 2005 — a decade in which the use of fireworks soared.

A special commission study estimated that 60 percent of last year's injuries occurred within two weeks of the July Fourth holiday, when most of the nation's backyard fireworks are exploded. Children accounted for a substantial share of the victims: 45 percent of the victims were under 15 and more than half were under 20.

At the same time, the commission's sampling of imported fire-



AP
Marriane Lindblom, of the San Bruno, Calif., Police Association, sells fireworks at her booth Monday in preparation for Fourth of July festivities.

works found a sharp drop last year in compliance with its safety regulations. From 2002 through 2004, 71 percent to 73 percent of imported

fireworks complied with federal regulations, but in 2005 that figure plunged to 59 percent.

Most fireworks are imported, mostly from China, which supplied \$164.2 million of the total \$172.5 million worth imported in 2004.

The panel did not promise to issue new rules but said it would consider requiring manufacturers to test their products and certify they comply with safety requirements; adding new requirements that fireworks must meet; continuing a largely voluntary safety program; or banning some devices case-by-case.

Fireworks have become substantially safer since 1976, while usage soared from 29 million pounds in 1976 to 118 million pounds in 1996 and 281.5 million pounds last year, Heckman said. The rate of injury has plummeted from 38.3 injuries per 100,000 pounds of fireworks in 1976, to 6.1 in 1996 and to 3.6 in 2005.



Karina Kraft, left, Diggs are shown in a photo where they were found by Comanche National Guard soldiers.

Funerals for six found

BY MIKE RAY
STAFF WRITER

Ex-soldier

Home for the holiday

*Fireworks
comment**2***Stevenson, Todd A.**

From: Information Center
Sent: Wednesday, July 05, 2006 3:42 PM
To: 'Kha Torres'
Cc: Stevenson, Todd A.
Subject: Fireworks enforcement

Hello,

Thank you for contacting the U.S. Consumer Product Safety Commission (CPSC). We have forwarded your comment to the appropriate agency personnel. If additional information is needed, a representative will contact you directly.

Please be advised that you may obtain CPSC publications, recalls and general safety related information via our web site at www.cpsc.gov. Click on the "Search" icon and type in your topic. You may also file an incident report via the web site mentioned above. If you have additional inquiries, you may call our toll-free hotline at 1-800-638-2772, Monday - Friday, 8:30am to 5:00pm, Eastern Standard Time. Press 1 to begin and then press 3 to speak with a representative.

Emj

From: Kha Torres [mailto:khatores@yahoo.com]
Sent: Tuesday, July 04, 2006 4:09 AM
To: Chairman Stratton
Subject: [Possibly SPAM (header):] - Fireworks enforcement - Email has different SMTP TO: and MIME TO: fields in the email addresses

Hi,

It's nice to see that you're going after homemade fireworks. Science will never be the same again when we can't practice it in our backyards like we have half a brain. Actually, we need a nanny state to watch over us at all times, lest we blow ourselves up. Your enforcement restricts the freedom of American innovation and is killing science.

Maybe this will give you some insight into the real effects that your efforts have:

<http://www.wired.com/wired/archive/14.06/chemistry.html>

"Intel cofounder Gordon Moore set off his first boom in Silicon Valley two decades before pioneering the design of the integrated circuit. One afternoon in 1940, near the spot where Interstate 280 intersects Sand Hill Road today, the future father of the semiconductor industry knelt beside a cache of homemade dynamite and lit the fuse. He was 11 years old."

I remember doing similar type things (and still do, as a matter of fact). Please, run around and pillow everything so that no one can possibly get hurt, take risks, or ever see any kind of remotely beneficial results. Bleah.

Kha

7/5/2006

Fireworks comment

Stevenson, Todd A.

From: Cohn, Murray S.
Sent: Wednesday, July 05, 2006 7:47 AM
To: Stevenson, Todd A.
Subject: FW: Fireworks

A "public comment" – do what you want with it – thanks!

From: n searle [mailto:dnsearle@comcast.net]
Sent: Tuesday, July 04, 2006 11:31 AM
To: Cohn, Murray S.
Subject: Fireworks

You can't stop the fireworks from being sold...the Indians sell all the illegal fireworks anyone wants...the only way is to make it illegal to USE them. Every year it gets worse with the local people setting them off. We need to pass laws to stop anyone from using them unless they are qualified and have permits to use them at public functions!

N. Searle
Vancouver Wa.

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™



Fireworks
ANPR

AAP Headquarters
141 Northwest Point Blvd
Elk Grove Village, IL 60007-1098
Phone: 847/434-4000
Fax: 847/434-8000
E-mail: kidsdocs@aap.org
www.aap.org

Reply to
Department of Federal Affairs
Homer Building, Suite 400 N
601 13th St NW
Washington, DC 20005
Phone: 202/347-8600
Fax: 202/393-6137
E-mail: kids1st@aap.org

Executive Committee

President
Eileen M. Ouellette, MD, JD, FAAP

President-Elect
Jay E. Berkelhamer, MD, FAAP

Executive Director/CEO
Errol R. Alden, MD, FAAP

Board of Directors

District I
Edward N. Bailey, MD, FAAP
Salem, MA

District II
Henry A. Schaeffer, MD, FAAP
Brooklyn, NY

District III
Sandra Gibson Hassink, MD, FAAP
Wilmington, DE

District IV
David T. Tayloe, Jr, MD, FAAP
Goldsboro, NC

District V
Ellen Buerk, MD, MEd, FAAP
Oxford, OH

District VI
Kathryn Piziali Nichol, MD, FAAP
Madison, WI

District VII
Gary Q. Peck, MD, FAAP
New Orleans, LA

District VIII
Mary P. Brown, MD, FAAP
Bend, OR

District IX
Burton F. Willis, MD, FAAP
Huntington Beach, CA

District X
John S. Curran, MD, FAAP
Tampa, FL

Immediate Past President
Carol D. Berkowitz, MD, FAAP

August 4, 2006

Nancy Nord, JD
Acting Chairwoman
Consumer Product Safety Commission
Room 502
4330 East-West Highway
Bethesda, MD 20814

Dear Chairwoman Nord:

The American Academy of Pediatrics, a non-profit professional organization of 60,000 primary care pediatricians, pediatric medical sub-specialists, and pediatric surgical specialists dedicated to the health, safety, and well-being of infants, children, adolescents, and young adults, urges you to ban all consumer fireworks pursuant to the advance notice of proposed rulemaking regarding an amendment to fireworks safety standards published in the *Federal Register* on July 12, 2006.

Since 1991, the American Academy of Pediatrics has urged governmental bodies to ban all fireworks for individual private use.¹ Children and their families should be encouraged to enjoy fireworks at *public* fireworks displays conducted by *professionals* rather than purchase fireworks for personal use.² The Academy applauds the CPSC for recognizing that current fireworks regulations are insufficient to prevent death and injury, as recent injury and noncompliance statistics reflect. However, each of the Commission's proposed alternatives fails to provide an adequate solution to the problem.

As you know, under its jurisdiction to regulate fireworks under the Federal Hazardous Substances Act (FHSA), the CPSC regularly tests imported fireworks to ensure that the products comply with agency specifications. While the overall percentage rate of compliance of tested fireworks remained consistent between 2002 and 2004 (71%, 73%, and 73% respectively), the compliance rate dropped to just 59% of the fireworks tested in 2005.³

Even more troublesome is the increase in the estimated number of fireworks-related injuries in recent years. In 2002, fireworks devices were involved in an estimated 8,000 injuries requiring treatment in U.S. hospital emergency rooms. Each year since, that number has risen, to 9,300 in 2003, 9,600 in 2004, and 10,800 in 2005. Injuries to children were a major component of total fireworks-related injuries, with children under 15 years of age accounting for 45% of the estimated injuries. Children and adolescents under 20 years of age accounted for 55% of injuries.⁴

As you are aware, the advance notice of proposed rulemaking lists several alternatives that could be employed by the agency to combat this disturbing rise in fireworks-related injuries, including mandatory certification, reliance on a voluntary standard, corrective actions, or a mandatory standard, whereby “the Commission could issue a rule specifying certain additional requirements fireworks devices must meet.”⁵ However, each of these alternatives is insufficient to protect children’s safety.

Mandatory certification requirements or the imposition of voluntary or mandatory standards are ineffective because malfunctions of consumer fireworks account for only a small percentage of injuries.⁶ Corrective actions occur only after the risk of harm has been detected, which is often too late to prevent injuries and deaths from occurring. Moreover, it is not enough to simply classify *certain* types of fireworks as “banned hazardous substances” under the FHSA, as is the current policy of the CPSC, given that “every type of legally available consumer (so-called ‘safe and sane’) firework has been associated with serious injury or death.”⁷

The clear danger posed by consumer fireworks and rising toll of injury they cause can only be addressed adequately through a ban on fireworks sold for personal use. Any lesser measure will not be fully protective of children’s health and welfare.

The AAP appreciates the Commission’s consideration of this matter. If the Academy can be of further assistance, please do not hesitate to contact Cindy Pellegrini in our Washington, DC office at 202-347-8600. We look forward to continuing to work with the Commission to protect the health and safety of our nation’s children.

Sincerely,

Eileen M. Ouellette, M.D., J.D. FAAP

Eileen M. Ouellette, MD, JD, FAAP
President

¹ Committee on Injury and Poison Prevention. Children and Fireworks. *Pediatrics*. 1991;88(3).

² American Academy of Pediatrics, Committee on Injury and Poison Prevention. Fireworks-Related Injuries to Children. *Pediatrics*. 2001;108(1).

³ Consumer Product Safety Commission. Amendment to Fireworks Safety Standards. *Federal Register*. July 12, 2006.

⁴ Ibid.

⁵ Ibid.

⁶ American Academy of Pediatrics, Committee on Injury and Poison Prevention. Fireworks-Related Injuries to Children. *Pediatrics*. 2001;108(1).

⁷ Ibid.

*Fireworks
over 5*

Stevenson, Todd A.

From: steven smith [lostyanke54751@yahoo.com]
Sent: Monday, August 07, 2006 8:17 PM
To: Stevenson, Todd A.
Subject: FIREWORKS ANPR.

I'm a member of the oldest and safest pyrotechnic club in the USA.

We provide safety training, demonstrations, guided tours of 1.4g and 1.3g displays.

We also have a few members who occasionally fabricate shells. One shell was a Maltese style multi shot shell that carried the remains of one of the founding members of are club. Shell was fired by his wife during a NYE display.

We also train Girl and Boy Scouts in the fabrication of gerb signs like the one used to welcome home troops.

Why is this practice being treated as an illegal act by making it impossible to purchase the chemicals needed in this art form? Restricting sales from Hummal and others to the smaller chemical houses is limiting the creative efforts that have brought many to the world of chemistry, physics and space. Would you call the boys in October Sky criminals?

For my part, I do not work with, store, handle or in any other way possess any compositions of higher energy than compounds based on Potassium Perchlorate. This is not flash, whistle, H3 or any of the other sensitive compositions that have a wide history in pyrotechnics. I do not handle these compositions because I can not justify the risk and can produce similar effects with safer chemicals. So why after being anally safe for many years are you forcing folk like me to consider using compositions of greater hazards just because we can obtain these chemicals from other sources than Firefox, Shylighter, ... ?

I have no argument with increasing fireworks safety. I teach fireworks safety. But limiting access to chemicals not only to pyros, but schools, labs and inventors, is not in the interest of the country. We need scientists.

Please enforce magnatory safety training and discontinue procedures against the pyrotechnic chemical houses.

Steve Smith
President - Lost Yankee Enterprises
[Http://www.lostyankee.biz](http://www.lostyankee.biz)
steve@lostyankee.biz

Talk is cheap. Use Yahoo! Messenger to make PC-to-Phone calls. Great rates starting at 1¢/min.

Fireworks 10

Galaxy Fireworks, Inc.
204 E. M.L. King Jr. Blvd.
Tampa, Fl. 33603

CPSC/OFC OF THE SECRETARY
FREEDOM OF INFORMATION
2006 AUG 15 P 3:26

August 10, 2006

Office of the Secretary,
Consumer Product Safety Commission, Room 502,
4330 East-West Highway
Bethesda, Maryland 20814

Re.: Fireworks ANPR, July 12, 2006

Dear Sir or Madam,

This letter is in regards to the Request for Comments on the above noted action posted by the CPSC in the Federal Register. I have some concerns on this issue that should be addressed by the Commission prior to an official action in this matter. I would also agree with Commissioner Moore's belief¹ in that this ANPR has come about in a rather hidden manner, almost as if the authors did not want the public to know of its nature.

At this time I would also like to object to the way that the fireworks injury figures were addressed by the author of the ANPR. Here we see a deliberate attempt to put our products in the worst possible light, with only minimal reference to the massive increase in the amounts of fireworks products imported over the past three years, or the reduction in injuries due to the increased quality of our products.

When Commissioner Moore made the remark about the "significant upward trend in fireworks injuries since 1996²", he obviously had not seen all of the facts concerning the quantities of consumer fireworks imported versus the injury figures available from the CPSC database. While the injury rate increased slightly from 1996 through 1998, since that time we as an industry have seen a steady downward trend in the injury rate figures as compared to the upward trend of products imported³.

I would like to emphasize that our company is a staunch supporter of the American Fireworks Standards Laboratory (AFSL) and the testing programs and procedures that they have initiated on behalf of the fireworks industry. I also feel that the decline in injuries that we have seen over the years is a direct result of the testing and procedures that have voluntarily been accepted by many of our industry's members. However, I do

¹ Statement of the Honorable Thomas Moore, June 30, 2006; <http://www.cpsc.gov/pr/moorefireworks.pdf>

² Ibid.

³ Fireworks Related Injury Rates, 1976-2005, American Pyrotechnics Association;
<http://www.americanpyro.com/Safety%20Info/Facts02/injurytable.pdf>

not think that it (the AFSL) should be singled out as the only testing facility authorized for the testing procedures.

I also object to the idea of having a single laboratory to accomplish testing for the entire industry. We as an industry have already seen times where production has overwhelmed the testing capabilities at the AFSL facilities, and this would be worsened should the Commission take the unlikely step of mandating all testing be accomplished at AFSL facilities. I also feel that the installation of a single entity as the primary testing agency could lead to legal difficulties and political infighting (both in the industry and with the Commission) in the future. This scenario needs to be avoided at all costs.

There seems to be a general sense of inference from the CPSC that the AFSL is the only body capable of properly testing fireworks devices. **This inference is noted both in this ANPR and in other recent legal actions⁴. To this end, there should be a minimum of three independent laboratories certified by the CPSC to accomplish the testing, and a listing of laboratories should be made available to the industry by the CPSC. Any regulation formulated in this area should also carry the option for the company itself to accomplish any required (or recommended) testing should they so desire.**

That being said, I do feel that the CPSC guidelines, as detailed in 16 CFR, should include clearer guidelines for consumer fireworks devices. This could be accomplished by incorporating standards such as those developed by and for the AFSL⁵, and should also include the APA Standard 87-1⁶ that has been adopted by the Department of Transportation. I would also urge that any testing requirement, if instituted, be installed as a voluntary requirement by the individual company rather than as a mandated requirement for the entire industry.

Inclusions on this line would clarify the confusion that sometimes occurs in the enforcement process by the Commission, and would also help to educate the general public on the parts that both the government and the industry play in continually upgrading the safety and performance of our products. Should there be any questions please do not hesitate to contact me immediately at either the telephone number above, or at galaxyfire@aol.com . Thank you for your time in this matter.

Sincerely,



Patrick Cook
General Manager

⁴ See *U.S. v. Winco*, 5,6 (Kansas District Court, Case No. 89-2400-0, 2005)

⁵ See *Standards for Consumer Fireworks, February 2005*, American Fireworks Standards Laboratory,

⁶ *Standard for Construction and Approval for Transportation of Fireworks, Novelties, and Theatrical Pyrotechnics*, American Pyrotechnics Association, 2001;

<http://www.americanpyro.com/Member/Regulatory%20Resources/APA%2087-1/APA871.pdf>

**Statement of The Honorable Thomas H. Moore on the Ballot Vote to Issue an
ANPR on Fireworks Devices
June 30, 2006**

While I am voting to go forward with this Advance Notice of Proposed Rulemaking (ANPR), I do want to express some concerns about it. First, this package is particularly thin in terms of content. It has little of the supporting information we would normally expect to see to proceed to an ANPR and I was given no briefing prior to receiving the ballot about the need for the Commission to take such a step.

Additionally, the lack of involvement of the Office of Hazard Identification and Reduction in this package is apparent. There is no memo justifying the ANPR apart from the legal memo from the General Counsel's office which is supposed to be passing judgment on the legal sufficiency of the proposal, not supplying the basis for it. This had the unfortunate and, I am sure, unintended effect of giving the public no notice that the Commission was contemplating action in this area, since the entire ballot was stamped "For Official Use Only." However, there is almost nothing in the legal memo that does not appear in the proposed Federal Register notice, so enforcement considerations should not have been a factor in keeping the public in the dark on this matter.

I have expressed concern on previous occasions about the Commission's actions being kept from public view until after a Commission vote. The Commission's deliberations are supposed to be done in public. This is why the Commission's guidelines specify that only purely routine matters should be done by ballot. We do not serve the public well when we take the first step in a possible rulemaking process in this manner. We need to be more mindful of our obligations to our stakeholders.

However, as I do consider ANPR's to be fact-finding tools and since there has been a significant upward trend in fireworks-related injuries since 1996, I will vote to gather more information in this area.



Fireworks-Related Injury Rates, 1976-2005

Year	Fireworks Consumption. Millions of Pounds ¹	Estimated Fireworks-related Injuries ²	Injuries per 100,000 Pounds
1976	29.0	11,100	38.3
1977	32.2	8,300	25.8
1978	32.8	7,100	21.6
1979	36.0	8,100	22.5
1980	41.2	9,400	22.8
1981	42.1	11,400	27.1
1982	50.7	8,500	16.8
1983	51.9	8,200	15.8
1984	55.0	9,900	18.0
1985	63.6	10,300	16.2
1986	72.1	12,600	17.5
1987	72.8	9,000	12.4
1988	66.8	10,200	15.2
1989	80.2	9,700	12.1
1990	67.6	12,000	17.7
1991	73.7	10,900	14.7
1992	87.1	12,500	14.3
1993	101.9	12,000	11.7
1994	117.0	12,500	10.7
1995	115.0	10,900	9.4
1996	118.0	7,300	6.1
1997	132.9	8,300	6.2
1998	112.6	8,500	7.5
1999	156.9	8,500	5.4
2000	152.6	11,000	7.2
2001	161.6	9,500	5.8
2002	190.1	8,800	4.6
2003	220.8	9,700	4.4
2004	236.2	9,600	4.1
2005	281.5	10,800	3.8

¹ Summary of Trade and Tariff Information — Fireworks (TSUS Item 755.15), U.S. International Trade Commission, Washington, D.C.

² National Electronic Injury Surveillance System, U.S. Consumer Product Safety Commission, Washington, D.C.

Source: American Pyrotechnics Association

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF KANSAS

FILED
U.S. DISTRICT COURT
DISTRICT OF KANSAS
05 DEC -1 PM 2:08

UNITED STATES OF AMERICA,

Plaintiff,

RALPH L. DELOACH
CLERK
BY mkmt DEPUTY
AT KANSAS CITY, MO

v.

Civil No. 89-2400-0 - CM

WINCO FIREWORKS INC., and
DAVID COLLAR,

Defendants.

MODIFIED CONSENT DECREE OF PERMANENT INJUNCTION
AND FOR PAYMENT OF CIVIL PENALTIES

On March 6, 1990, this Court entered a Consent Decree of Permanent Injunction ("Consent Decree") against WINCO FIREWORKS, INC., a corporation, and DAVID COLLAR, an individual, for relief against Defendants under the Federal Hazardous Substances Act ("FHSA"), 15 U.S.C. § 1261 et seq., and the regulations issued thereunder. Plaintiff and Defendants now have agreed to the present Modified Consent Decree of Permanent Injunction and for Payment of Civil Penalties ("Modified Decree") which supersedes the original Consent Decree in this case. Plaintiff has also agreed not to file a motion for an order to show cause why Defendants or Related Persons, (as defined in paragraph 2 of this Modified Decree), should not be held in contempt based upon conduct through and including June 27, 2005. Based upon this Modified Decree, Plaintiff also has agreed not to file a complaint, or initiate criminal or other enforcement proceedings, alleging violations by Defendants or Related Persons of the FHSA during the five years preceding the entry of this Modified Decree, as well as violations of the Consumer Product Safety Act ("CPSA"), 15 U.S.C. § 2051 et seq. Accordingly, based upon this Modified Decree, neither Plaintiff nor the United States Consumer Product Safety Commission

("CPSC") will seek any additional penalties, civil or criminal, or initiate any further enforcement proceedings, against Defendants or Related Persons, based upon the violations alleged in CPSC's letter by Dennis Kacoyanis, dated September 13, 2004, to Robin E. Scully. Defendants have consented to the entry of this Modified Decree in settlement of the contemplated motion to show cause and contemplated complaint, without admitting that they were ever in contempt of the Consent Decree or in violation of the FHSA or CPSA.

THEREFORE, on the joint motion of the parties, IT IS HEREBY ORDERED, ADJUDGED, AND DECREED THAT:

1. This Court has jurisdiction over the matter pursuant to 28 U.S.C. §§ 1331, 1337, and 1345 and has personal jurisdiction over the Defendants and the Related Persons. Venue in this District is based on 28 U.S.C. §§ 1391 (b) and (c).

I. DEFINITIONS

2. For purposes of this Modified Decree, the following terms have the following meanings:

A. "Defendants" are Winco Fireworks, Inc., a corporation, and David Collar, an individual.

B. "Related Persons," for purposes of this Modified Decree only in order to reach a settlement of this overall matter, includes but is not limited to Michael Collar, John Collar, Winco Fireworks International, LLC, Winco Fireworks of Utah, LLC, and Zenith Specialties, Inc. In addition, "Related Persons" includes each and all of Defendants' directors, officers, agents, representatives, employees, assigns, and any or all persons in active concert or participation with any of them, and having anything to do with the import, assembly,

manufacture, sale, or distribution of fireworks devices.

C. "Consent Decree" means the Consent Decree of Permanent Injunction entered by this Court on March 6, 1990.

II. CIVIL PENALTIES

3. Plaintiff alleges that after March 6, 1990, Defendants have knowingly introduced or caused the introduction in interstate commerce of lots of fireworks devices that failed to comply with the Commission's Fireworks Regulations at 16 C.F.R. Part 1507 and 16 C.F.R. §§ 1500.14(b)(7) and 1500.17(a)(3), and are therefore banned hazardous substances pursuant to section 2(q)(1)(B) of the FHSA, 15 U.S.C. §1261(q)(1)(B), in violation of section 4(a) of the FHSA, 15 U.S.C. § 1263(a).

4. Plaintiff alleges that on or about June 8, 2000, Defendants obtained information which reasonably supported the conclusion that the Hustler, a fireworks product with mortar tubes and shells, contained an unreasonable risk of serious injury or a defect which could create a substantial product hazard. Specifically, tubes included in the Hustler and used to fire mortar type shells could unravel during use. If that happened, explosive materials could escape out the side of the tube and injure the consumer firing the device. Defendants knowingly failed to report to the Commission such defect, risk, or death as required by sections 15(b)(2) and (3) of the CPSA, 15 U.S.C. §§ 2064(b)(2) and (3), in violation of section 19(a)(4) of the CPSA, 15 U.S.C. § 2068(a)(4). Plaintiff does not know of any other instances where Defendants have failed to comply with the CPSA in the last five years.

5. Defendants deny each and all of the foregoing allegations, and specifically allege that they have in good faith attempted to comply with the Consent Decree's provisions and with

the requirements of the FHSA and CPSA. Defendants enter into this Modified Decree in order to avoid the expense, distraction, and uncertainty of litigation and to bring closure to this matter, without admitting to any wrongdoing.

6. In settlement of the allegations set forth above, David Collar, Winco Fireworks Inc., Winco Fireworks International, LLC and Winco Fireworks of Utah, LLC ("Collar/Winco") agree to pay a civil penalty in the total amount of six hundred thousand dollars (\$600,000), to be paid in equal installments of one hundred thousand dollars (\$100,000). Collar/Winco shall be jointly and severally liable for payment of the foregoing civil penalty amount. Within sixty (60) days of entry of this Modified Decree by the Court, the initial payment of \$100,000 shall be made by Collar/Winco in the form of a certified or cashier's check made payable to the Treasurer of the United States and sent by overnight delivery to the Director, Office of Consumer Litigation, Civil Division, 1331 Pennsylvania Avenue NW, Rm 950N, Washington, D.C. 20004. The cover letter accompanying the check shall include the title of this litigation and a reference to DJ# 104-29-26. The remaining installment payments of \$100,000 shall be made in the same form and to the same address on an annual basis thereafter (*i.e.*, the second installment shall be paid one year from the date of the first payment, the third installment shall be paid two years from the date of the first payment, and so forth). Upon the failure of Collar/Winco to make a payment or upon Collar/Winco making a late payment (a) the entire amount of the civil penalty shall be due and payable, and (b) interest on the outstanding balance shall accrue and be paid at the federal legal rate of interest under the provisions of 28 U.S.C. §§ 1961(a) and (c).

III. INJUNCTIVE PROVISIONS

7. Defendants and Related Persons are permanently restrained and enjoined under

15 U.S.C. §§ 1263(a), 1263(c), and 1267(a) from directly or indirectly introducing, delivering for introduction, or receiving and delivering or proffering for delivery in interstate commerce fireworks devices that are banned hazardous substances pursuant to the FHSA, 15 U.S.C. § 1261(q)(1)(B), and the regulations issued thereunder, 16 C.F.R. §§ 1500.17 (a)(3), (a)(8), and (a)(9) and 16 C.F.R. Part 1507 (hereafter “banning regulations”), or misbranded hazardous substances pursuant to the FHSA, 15 U.S.C. §§ 1261(p) and 1262(b), and the regulations issued thereunder, 16 C.F.R. § 1500.14(b)(7) and 16 C.F.R. § 1500.121 (hereafter “misbranding regulations”).

8. In addition to and in accordance with the preceding paragraph, the Defendants and Related Persons are permanently restrained and enjoined from directly or through their agents introducing, delivering for introduction, or receiving and delivering or proffering for delivery in interstate commerce, fireworks subject to the FHSA unless and until:

All fireworks devices imported by Defendants and Related Persons have been tested and certified as in compliance with the applicable U.S. laws and regulations by the American Fireworks Standards Laboratory (“AFSL”) or an independent third party that has been accepted by the Director, Office of Compliance, CPSC. Such testing shall be at Defendants’ and Related Persons’ expense. This Paragraph shall take effect for any order of fireworks devices placed by Defendants or Related Persons after the date this Decree is entered. Defendants and Related Persons shall maintain at a U.S. location(s) the actual test reports for each item imported for a period of six (6) years from the date of testing.

9. If Defendants and Related Persons do not use AFSL for testing and certification, then they shall submit the name and credentials of the independent third party they propose to

use (required by paragraph 8 of this Modified Decree) to the Director, Office of Compliance, CPSC, 4330 East West Highway, Bethesda, MD 20814, via overnight delivery and facsimile at 301-504-0359, no later than 60 days prior to using any subject third party. The Director, Office of Compliance shall have the right to object to the independent third party selected by Defendants and Related Persons, provided that such objection is supported by reasonable grounds. The Director must notify Defendants and Related Persons of an objection within thirty (30) calendar days of Defendants and Related Persons submitting the third party's name and credentials, at which point Defendants and Related Persons shall select another independent third party, the name and credentials of which shall be submitted to the Director, Office of Compliance. Alternatively, Defendants and Related Persons shall have the right to file a motion before this Court seeking review of such objection as unreasonable, and if this Court finds that the objection was not founded on reasonable grounds said objection shall be set aside. If the Director, Office of Compliance does not respond to Defendants' and Related Persons' submission of an independent third party's name and credentials within thirty (30) days, Defendants and Related Persons may use that independent third party to do the testing and certification required by paragraph 8 of this Modified Decree.

10. With respect to the introduction, delivery for introduction into interstate commerce or the receipt in interstate commerce of any fireworks products manufactured and/or assembled in the United States and/or its possessions and territories and not tested and certified under the foregoing paragraphs 8 or 9, Defendants and Related Persons shall, for a period of one year from the date they receive notice of the entry of this Modified Decree, send a notice to the Commission of sales of such products by sending to the Commission a copy of the invoice or

notice document prepared for the Commission containing similar information by (i) facsimile to Fireworks Program Manager at 301-504-0359, or (ii) overnight delivery service sent to Fireworks Program Manager, Office of Compliance, CPSC, 4330 East West Highway, Bethesda, MD 20814), or (iii) email to JJoholske@cpsc.gov or to an email address provided by the CPSC; within three days of shipment. For each product, the documentation sent to the Commission shall state: the type of fireworks devices (i.e., combination items; comets, mines and shells; firecrackers; fountains; ground spinners and chasers; specialty items; party, trick, and toy smoke devices; reloadable tube aerial shells; roman candles; sky rockets, missiles, and helicopters; hand-held sparkling devices; or wheels), the name and quantity of the products sold, and the identity and address of the recipient. Pricing and any other proprietary information may be deleted or redacted from the documents provided to the Commission.

11. Defendants and Related Persons shall notify the Commission by certified mail, return receipt requested, to Fireworks Program Manager, Office of Compliance CPSC, 4330 East West Highway, Bethesda, MD 20814 of any changes in the corporate structure of Defendants and Related Persons (such as dissolution, reorganization, assignment, or sale resulting in the emergence of a successor corporation, or the creation or dissolution of subsidiaries) that may affect the compliance obligations arising out of this Modified Decree, and make reasonable efforts to give such notice as far in advance of such change as is practicable, but, in any event, not later than thirty (30) days before such change becomes final. The Defendants and Related Persons shall provide a copy of this Modified Decree to any successor or assign.

12. Defendants and Related Persons shall provide a copy of this Modified Decree to each officer, director, and supervisor of Defendants and Related Persons within thirty (30) days.

of the date of entry of this Modified Decree, and provide both Fireworks Program Manager of the Commission and the Plaintiff's attorneys with an affidavit of compliance within thirty (30) days after the date of entry of this Modified Decree, stating the fact and manner of compliance with this paragraph and identifying the names and positions of all person so notified.

IV. GENERAL PROVISIONS

13. Commission investigators shall be authorized to make inspections of Defendants' and Related Persons' facilities to inspect the records required pursuant to this Modified Decree to ensure continuing compliance with the terms of this Modified Decree. Such inspections shall be authorized upon presentation of appropriate credentials and a written notice specifying that such inspection is being requested in accordance with this Modified Decree. Such inspection authority granted by this Modified Decree is apart from and in addition to the authority to make inspections under 15 U.S.C. §§1270 and 1271.

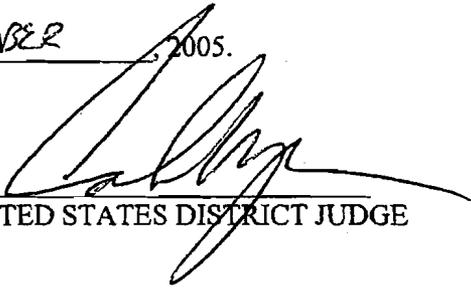
14. Defendants may petition this Court to rescind the provisions of this Modified Decree after a period of ten (10) years from the entry of this Modified Decree. If, in the Commission staff's judgment, Defendants and Related Persons have maintained a state of continuous compliance with this Modified Decree, Plaintiff will not oppose such petition.

15. This Court shall retain jurisdiction of this matter for the purpose of enabling any party to this Modified Decree to apply for any further orders that may be needed to construe, carry out, modify, or enforce compliance with the terms of this Modified Decree.

16. Each party shall bear its own costs and attorney's fees.

SO ORDERED:

Dated this 30 day of NOVEMBER, 2005.


UNITED STATES DISTRICT JUDGE

We hereby consent to the entry of the foregoing Modified Decree.

FOR THE PLAINTIFF:

ERIC F. MELGREN
United States Attorney
District of Kansas

PETER D. KEISLER
Assistant Attorney General

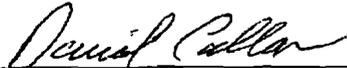

HENRY F. LAHAIE
Attorney
Office of Consumer Litigation
U.S. Department of Justice
P.O. Box 386
Washington, D.C. 20044
(202) 307-0053
(202) 514-8742 (facsimile)

OF COUNSEL:

PAGE C. FAULK
General Counsel
Consumer Product Safety Commission

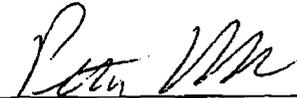
HARRIET KERWIN
Attorney
Consumer Product Safety Commission
Washington, D.C. 20207

FOR THE DEFENDANTS AND
RELATED PERSONS:


DAVID COLLAR


MICHAEL COLLAR


JOHN COLLAR


PETER L. WINIK
Latham & Watkins LLP
555 Eleventh St. NW, Suite 1000
Washington, DC 20004-1304
(202) 637-2224
(202) 637-2201 (facsimile)
Counsel for Defendants

APA STANDARD 87-1

2001 APA STANDARD 87-1

STANDARD FOR CONSTRUCTION AND APPROVAL FOR TRANSPORTATION OF FIREWORKS, NOVELTIES, AND THEATRICAL PYROTECHNICS

The following does not contain Appendix A-D. To purchase the publication in its entirety use order form found on the APA website, or contact the APA office.

American Pyrotechnics Association
PO Box 30438
Bethesda, MD 20824
(301) 907-8181
www.americanpyro.com

) American Pyrotechnics Association 2004

Contents

1. INTRODUCTION1

2. DEFINITIONS1

3. REQUIREMENTS FOR CONSUMER FIREWORKS, NOVELTIES AND THEATRICAL PYROTECHNICS4

 3.1 Types of Consumer Fireworks4

 3.2 Types of Novelties7

 3.4 Other Devices8

 3.6 Specific Requirements for Consumer Fireworks9

 3.7 Prohibited Chemicals and Components11

 3.8 Requirements for Theatrical Pyrotechnics12

 3.9 Approval12

 3.10 Marking and Labeling13

4. REQUIREMENTS FOR DISPLAY FIREWORKS DEVICES13

 4.1 Types of Display Fireworks Devices13

 4.2 Construction of Aerial Shells14

 4.3 Approval15

 4.3-1 Standard Fireworks Chemicals Table16

 4.4 Approval for Combination Devices for Display Purposes17

5. SHIPPING REQUIREMENTS17

 5.3 Packaging Provisions for Fireworks18

 5.7 Special Packaging Provisions for Private Motor Carriers19

 5.8 Attachment of Igniters Prior to Transportation19

6. REFERENCES20

Appendices: *(This document does not contain Appendices. To purchase the publication in its entirety, use order form found on the APA website, or contact the APA office.)*

- Appendix A: Types of Fireworks and Novelties
- Appendix B: Consumer Fireworks Testing Program
- Appendix C: Product Labeling Requirements for Consumer Fireworks
- Appendix D: Procedure for Obtaining EX Numbers

Note: Changes from the January 1998 edition are indicated in bold type and underlined.

Copyright) 2003 APA, All Rights Reserved

PREFACE

The information contained in this document was obtained from sources believed to be reliable and is based on technical information and experience currently available from members of the American Pyrotechnics Association and others. However, the Association, nor its members, jointly or severally, make no guarantee of the results and assume no liability or responsibility in connection with the information or suggestions contained within, or that abnormal or unusual circumstances may not warrant or suggest further requirements or additional procedures.

This document is subject to periodic review and users are cautioned to obtain the latest edition. Comments and suggestions are invited from all users for consideration by the Association in connection with such review. Any such comments or suggestions will be fully reviewed by the Association after giving the party, upon request, a reasonable opportunity to be heard.

This document should not be confused with federal, state or municipal specifications or regulations, insurance requirements or national safety codes. However, when incorporated by reference in the Code of Federal Regulations (CFR), those portions of this document applying to transportation (indicated in this document by an asterisk) have the force of a federal regulation, and shippers of fireworks are subject to penalties pertaining thereto. **Every effort has been made to keep this Standard consistent with the Department of Transportation's Hazardous Materials Regulations in Title 49, CFR.**

The 2001 revisions are intended to address technical questions that have arisen regarding the wording of several sections of the January, 1998 edition of this Standard, including the approval of aerial shells under this Standard. Clarification of the status of certain pyrotechnic novelties has also been incorporated into this edition.

Unless otherwise noted, all CFR references cited in this Standard refer to those sections in effect on **January 1, 2001.**

1. INTRODUCTION

* 1.1 This standard provides manufacturers, importers and distributors of fireworks and novelties with information to assist them in manufacturing, testing, shipping, and labeling the products of the fireworks industry in accordance with applicable federal laws and current good manufacturing practices (GMPs). Paragraphs of this Standard which apply to the approval by the U.S. Department of Transportation (DOT) for transportation of fireworks are indicated by an asterisk (*) preceding the paragraph number.

* 1.2 The information in this Standard should enable manufacturers, importers, and distributors of fireworks and novelties to provide their customers with products that can be transported and used safely and without unreasonable risk.

* 1.3 Fireworks, pyrotechnic articles for theatrical purposes, and novelties are not acceptable for transportation within the jurisdiction of the United States unless they are classed, packaged, labeled, and marked and are in proper condition for shipment in accordance with the DOT regulations in Title 49, CFR. (See Chapter 5 for further discussion.)

* 1.4 Consumer fireworks (fireworks classed as 1.4G and 1.4S) (formerly Fireworks, Common) and novelties are not acceptable for sale to the public unless they are manufactured, labeled, and sold in conformance with the regulations of the U.S. Consumer Product Safety Commission (CPSC) published in Title 16, CFR. (See Chapter 3 for further discussion.)

Note: Consumer fireworks are normally classed as 1.4G but may be classed by DOT as 1.4S on the basis of examination and testing in accordance with Title 49 CFR, § 173.56.

* 1.5 United States laws and regulations prescribe mandatory requirements that a person must follow in order to market certain products. In these instances, failure to comply may be regarded by courts as negligence *per se* in product liability litigation.

* 1.6 This Standard applies to fireworks devices, pyrotechnic articles, and novelties for entertainment purposes.

2. DEFINITIONS

* 2.1 **Approval** For purposes of this Standard, approval means the assignment of proper hazard class, EX (explosives approval) number, proper shipping name, and UN (United Nations) identification number by the DOT so that fireworks and novelties may be transported under conditions specified in Title 49, CFR. (See Chapter 5 for details.)

* 2.2 **Black Match (Instantaneous Fuse)** An uncovered fuse made from thread impregnated with black powder and used for igniting pyrotechnic devices. Black Match may be classed as 1.3G and described as Fuse, non-detonating, UN0101, under the provisions of this Standard. For any other classification, examination and testing as specified in Title 49 CFR, § 173.56, CFR is required. (See also Quickmatch.)

* 2.3 **Blowout** The unintended release of a pressure effect from other than the intended orifice of a fireworks device. Examples include expulsion of the bottom plug of a roman candle,

APA, STANDARD 87-1

expulsion of the clay choke of a fountain, or the rupturing of the wall of a mine or shell.

* **2.4 Burnout** The unintended escape of flame through the wall of a pyrotechnic chamber during functioning of a fireworks device.

* **2.5 Burst Charge** Chemical composition used to break open a fireworks device after it has been propelled into the air, producing a secondary effect such as a shower of stars. Burst charge is also sometimes referred to as expelling charge or break charge. Any burst charge containing metallic powder (such as magnalium or aluminum) less than 100 mesh in particle size, is considered to be intended to produce an audible effect, and is limited to 130 mg in 1.4G fireworks devices. Burst charge consisting of black powder or equivalent non-metallic composition is not considered to be intended to produce an audible effect when it is used to expel and ignite a secondary effect in a fireworks device. Burst charge for use in 1.3G fireworks is limited to black powder (potassium nitrate, sulfur, and charcoal) or similar pyrotechnic composition without metallic fuel for approval under the provisions of this standard.

* **2.6 Chemical Composition** All pyrotechnic and explosive composition contained in a fireworks device. Inert materials such as clay used for plugs, or organic matter such as rice hulls used for density control are not considered to be chemical composition.

* **2.6.1 Explosive Composition** Any chemical compound or mixture, the primary purpose of which is to function by explosion, producing an audible effect (report) in a fireworks device.

* **2.6.2 Pyrotechnic Composition** A chemical mixture which on burning, and without explosion, produces visible or brilliant displays or bright lights, or whistles or motion.

* **2.7 Fireworks** Any device, other than a novelty or theatrical pyrotechnic article, intended to produce visible and/or audible effects by combustion, deflagration, or detonation. Fireworks are further described as Fireworks UN0336 (formerly Common Fireworks and now referred to in this Standard as Consumer Fireworks,) or Fireworks UN0335 (formerly Special Fireworks and now referred to in this Standard as Display Fireworks.) Fireworks may also be described as Fireworks UN0337 if examination and testing in accordance with Title 49 CFR, § 173.56 is performed that warrants that classification.

Note: Propelling and expelling charges consisting of a mixture of sulfur, charcoal, and potassium nitrate (saltpeter) or similar pyrotechnic compositions not containing metal powders are not considered as designed to produce audible effects.

* **2.7.1 Consumer Fireworks (formerly Common Fireworks)** Any fireworks device in a finished state, exclusive of mere ornamentation, suitable for use by the public that complies with the construction, performance, composition, and labeling requirements promulgated by CPSC in Title 16, CFR, in addition to any limits and other requirements of this Standard. (See Chapter 3 for details.)

APA, STANDARD 87-1

* 2.7.2 Display Fireworks (formerly Special Fireworks)

Fireworks devices in a finished state, exclusive of mere ornamentation, primarily intended for commercial displays which are designed to produce visible and/or audible effects by combustion, deflagration or detonation, including, but not limited to: salutes containing more than 130 mg (2 grains) of explosive composition; aerial shells containing more than 40 g of chemical composition exclusive of lift charge; and other exhibition display items that exceed the limits contained in this Standard for consumer fireworks. Certain devices intended for signaling, illuminating, and incendiary purposes and formerly classed, as Special Fireworks no longer fall into this fireworks category. (See Chapter 4 for details.)

* **2.8 Electric Match (Igniter)** A device used for the electrical ignition of fireworks and pyrotechnic articles that contains a small amount of pyrotechnic material that ignites when a specified electric current flows through the leads.

* **2.9 Labeling** A display of written, printed, or graphic matter upon a fireworks device and/or upon the immediate package of any such device(s). Included are diamond-shaped labels required by DOT to be displayed on outside packaging for transportation purposes. The term also includes any identification, cautions, and other information required by this Standard or by any federal government agency.

* **2.10 Lift Charge Pyrotechnic composition used to propel a component of a mine or shell device into the air. Lift charge is limited to black powder (potassium nitrate, sulfur, and charcoal) or similar pyrotechnic composition without metallic fuel.**

* **2.11 Marking.** The application of the proper shipping name, identification number (UN number), instructions, cautions, weight, or specification mark or combination thereof to a package of hazardous material. Marking also includes any required specification mark on a shipping package.

* **2.12 Novelty** A device containing small amounts of pyrotechnic and/or explosive composition. Such devices produce limited visible or audible effects. **These items must be approved by DOT, and are normally classed as 1.4G. A different classification may be assigned based on testing and examination as specified in Title 49 CFR §CFR, § 173.56. Certain novelties which meet the criteria specified in Section 3.2 are not regulated as explosives, and approval by DOT is not required for those specific items.**

* **2.13 Placard** A warning symbol of a square-on-point configuration mounted on each side and each end of a truck, rail car or freight container which informs the public and emergency personnel of the hazardous nature of the cargo, as specified in Title 49 CFR §CFR, § 172.

* **2.14 Quickmatch (Instantaneous Fuse)** Black match that is encased in a loose-fitting paper or plastic sheath to make it burn extremely rapidly. Quickmatch is used for aerial shells and for simultaneous ignition of a number of pyrotechnic devices, such as lances in a ground display piece. Quickmatch may be approved under the provisions of this Standard and classed as 1.3G, described as Fuse, non-detonating, and assigned identification number UN0101. A different classification may be recommended based on testing and examination as specified in Title 49 CFR, §173.56.

APA, STANDARD 87-1

* **2.15 Safety Fuse** A fuse consisting of a thread-wrapped black powder train that has been coated with a water resistant material. Such fuse is typically 3/32 inches (2.4 mm) in outside diameter and frequently green in color. Safety Fuse is described as Fuse, Safety UN0105 and classed as 1.4S.

* **2.16 Star** A pressed or consolidated pellet of pyrotechnic composition that is usually cylindrical, spherical, or rectangular in shape. Stars are fired from a launch tube by means of a propelling charge of black powder in roman candles and mines, or they are a component of an insert that is fired into the air in an aerial shell. Stars produce a visible display of color and light as they burn in the air, and sometimes a crackling or similar audible effect is also produced. Stars are typically 0.375-1.0 inch in diameter. Larger cylindrical stars are known as comets. A star is not considered a finished firework, and stars cannot be approved for transportation under the provisions of this Standard.

* **2.17 Theatrical Pyrotechnics** Pyrotechnic devices for professional use in the entertainment industry similar to consumer fireworks in chemical composition and construction but not intended for consumer use. Such articles, meeting the lift and effect powder weight limits for similar consumer fireworks but not labeled as such, and containing only chemicals listed in table 4.3-1 may be approved under the provisions of this Standard and classified as Articles, Pyrotechnic, 1.4G, UN0431.

Note: Theatrical pyrotechnic devices may be classed by DOT as Articles, Pyrotechnic, 1.4S, UN0432 **or as Articles, Pyrotechnic, 1.3G, UN0430** on the basis of examination and testing as specified in Title 49 CFR, § 173.56.

3. REQUIREMENTS FOR CONSUMER FIREWORKS, NOVELTIES AND THEATRICAL PYROTECHNICS

Note 1: Devices in this category, formerly classed as Class C Explosive, Common Fireworks, are now classed as Fireworks 1.4G under the UN System, and referred to in this Standard as Consumer Fireworks.

Note 2: Devices intended for non-consumer use in the entertainment industry, termed Theatrical Pyrotechnics in this Standard, that meet the chemical composition weight requirements of this chapter may be classed as 1.4G and described as Articles, Pyrotechnic UN0431 under the provisions of this Standard, but are not required to comply with the fuse, construction, and labeling requirements of CPSC for consumer fireworks. Theatrical Pyrotechnics may or may not have an ignition device attached.

* **3.1 Types of Consumer Fireworks** The following fireworks devices are subject to the requirements of chapter 3 of this Standard. (See Appendix A for diagrams.)

* **3.1.1 Ground and Hand-held Sparkling Devices (“Sparklers”)** These devices are ground-based or hand-held devices that produce a shower of white, gold, or colored sparks as their primary pyrotechnic effect. Additional effects may include a colored flame, an audible crackling effect, an audible whistle effect, and smoke. These devices do not rise into the air, do not fire inserts or projectiles into the air, and do not explode or produce a report (a mild audible crackling-type effect is not

considered to be a report.) Ground-based or hand-held devices that produce a cloud of smoke as their sole pyrotechnic effect are also included in this category. Types of devices in this category include:

* **3.1.1.1 Cylindrical Fountain** Cylindrical tube containing not more than 75 g of pyrotechnic composition. Upon ignition, a shower of colored sparks, and sometimes a whistling effect or smoke, is produced. This device may be provided with a spike for insertion into the ground (Spike Fountain), a wood or plastic base for placing on the ground (Base Fountain), or a wood or cardboard handle to be hand held (Handle Fountain). When more than 1 tube is mounted on a common base, total pyrotechnic composition may not exceed 200 g. (See section 3.5 for exceptions.)

* **3.1.1.2 Cone Fountain** Cardboard or heavy paper cone containing not more than 50 g of pyrotechnic composition. The effect is the same as that of a cylindrical fountain. When more than 1 cone is mounted on a common base, total pyrotechnic composition may not exceed 200 g. (See section 3.5 for exceptions.)

* **3.1.1.3 Illuminating Torch** Cylindrical tube containing not more than 100 g of pyrotechnic composition that produces a colored flame upon ignition. May be spike, base, or hand held. When more than 1 tube is mounted on a common base, total pyrotechnic composition may not exceed 200 g. (See section 3.5 for exceptions.)

* **3.1.1.4 Wheel** Pyrotechnic device intended to be attached to a post or tree by means of a nail or string. May have one or more drivers, each of which may contain not more than 60 g of pyrotechnic composition. No wheel may contain more than 200 g total pyrotechnic composition. Upon ignition, the wheel revolves, producing a shower of color and sparks and, sometimes, a whistling effect.

* **3.1.1.5 Ground Spinner** Small device containing not more than 20 g of pyrotechnic composition, venting out an orifice usually on the side of the tube. Similar in operation to a wheel but intended to be placed flat on the ground and ignited. A shower of sparks and color is produced by the rapidly spinning device.

* **3.1.1.6 Flitter Sparkler** Narrow paper tube attached to a stick or wire and filled with not more than 5 g of pyrotechnic composition that produces color and sparks upon ignition. The paper at one end of the tube is ignited to make the device function.

* **3.1.1.7 Toy Smoke Device** Small plastic or paper item containing not more than 100 g of pyrotechnic composition that, upon ignition, produces white or colored smoke as the primary effect. **(For devices containing less than 5 g of pyrotechnic composition, see Section 3.2, Novelties.)** Toy smoke devices, when complying with the provisions of this section, are classed as Fireworks, 1.4G unless classed as 1.4S or not regulated as an explosive on the basis of examination and testing as specified in Title 49 CFR, § 173.56.

* **3.1.1.8 Wire Sparkler/Dipped Stick** These devices consist of a metal wire or wood dowel that has been coated with pyrotechnic composition. Upon ignition of the tip of the device, a shower of sparks is produced. Sparklers may contain up to 100 g of **pyrotechnic** composition per item. **Certain wire sparklers and dipped sticks are**

considered as Novelties under this Standard, see Section 3.2.

*** 3.1.2 Aerial Devices**

*** 3.1.2.1 Sky Rockets and Bottle Rockets** Cylindrical tube containing not more than 20 g of chemical composition with a wooden stick attached for guidance and stability. Rockets rise into the air upon ignition. A burst of color and/or sound may be produced at or near the height of flight.

*** 3.1.2.2 Missile-Type Rocket** A device similar to a sky rocket in size, composition, and effect that uses fins rather than a stick for guidance and stability. Missiles shall contain not more than 20 g of total chemical composition.

*** 3.1.2.3 Helicopter, Aerial Spinner** A tube containing not more than 20 g of chemical composition, with a propeller or blade attached. Upon ignition the rapidly spinning device rises into the air. A visible or audible effect may be produced at or near the height of flight.

*** 3.1.2.4 Roman Candle** Heavy paper or cardboard tube containing not more than 20 g of chemical composition. Upon ignition, stars (see section 2.14) are individually expelled.

*** 3.1.2.5 Mine and Shell Devices** Heavy cardboard or paper tube usually attached to a wooden or plastic base **and containing not more than 60 g of total chemical composition (lift charge, burst charge, and visible/audible effect composition.)** Upon ignition stars, components producing reports containing up to 130 mg of explosive composition per report, or other devices are propelled into the air. **The term mine refers to a device with no internal components containing a bursting charge, and the term shell refers to a device that propels a component that subsequently bursts open in the air. A mine or shell device may contain more than 1 tube provided the tubes fire in sequence upon ignition of 1 external fuse. The term cake refers to a dense-packed collection of mine/shell tubes. Total chemical composition including lift charges of any multiple tube devices may not exceed 200 g. (See section 3.5) The maximum quantity of lift charge in any one tube of a mine or shell device shall not exceed 20 g, and the maximum quantity of break or bursting charge in any component shall not exceed 25% of the total weight of chemical composition in the component.**

Note: Shells that are offered for transportation without a launching tube may not be approved as Fireworks, 1.4G, UN0336 under the provisions of this Standard, except as provided in section 3.1.2.6 for kits. Aerial shells without launching tubes may be approved for transportation as Fireworks, 1.3G, UN0335. (See section 4.1.1)

*** 3.1.2.6 Aerial Shell Kit, Reloadable Tube** A package (kit) containing a cardboard, **high-density polyethylene (HDPE), or equivalent** launching tube and not more than **12** small aerial shells. (see 4.1.1) **Each aerial shell is limited to a maximum of 60 g of total chemical composition (lift charge, burst charge, and visible/audible effect composition,)** and the maximum diameter of each shell shall not exceed 1.75 inches. **In addition, the maximum quantity of lift charge in any shell shall not exceed 20 g,**

APA, STANDARD 87-1

and the maximum quantity of break or bursting charge in any shell shall not exceed 25% of the total weight of chemical composition in the shell. The total chemical composition of all the shells in a kit, including lift charge, shall not exceed 400 g for approval under the provisions of this Standard. The user lowers a shell into the launching tube, at the time of firing, with the fuse extending out of the top of the tube. After firing, the tube is then reloaded with another shell for the next firing. **All launching tubes must be capable of firing twice the number of shells in the kit without failure of the tube. Each package of 12 shells must comply with all warning label requirements of CPSC.**

* 3.1.3 Audible Ground Devices

* 3.1.3.1 **Firecracker** Small, paper-wrapped or cardboard tube containing not more than 50 mg of explosive composition, those used in aerial devices may contain not more than 130 mg of explosive composition per report. Upon ignition, noise and a flash of light are produced.

Note: Firecrackers are not subject to the requirements of fuse in section 3.5.1 and chemicals in section 3.6.1.

* 3.1.3.2 **Chaser** Paper or cardboard tube venting out the fuse end of the tube containing not more than 20 g of chemical composition. The device travels along the ground upon ignition. A whistling effect, or other noise, is often produced. Explosive composition may be included to produce a report but may not exceed 50 mg.

* 3.2 **Novelties** **The following devices do not require approval from DOT and are not regulated as explosives under the provisions of this Standard, provided that they are manufactured and packaged as described below. Any devices not complying with the requirements set forth in this section require approval from DOT, and are classed as Fireworks 1.4G and described as Fireworks, UN0336 unless they are classed as 1.4S or not regulated as hazardous materials based on examination and testing as specified in Title 49 CFR, § 173.56. Devices described in this section which are not regulated as explosives are not considered to be consumer fireworks; however, these devices must still comply with all labeling requirements of CPSC applicable to consumer fireworks devices. Novelties must be packaged in strong outer packagings that are sealed to prevent leakage of the contents. Each package, and overpack if used, offered for surface transportation must be plainly marked NOVELTIES, NOT REGULATED, EXCEPT WHEN TRANSPORTED BY AIR, IN CONFORMANCE WITH APA STANDARD 87-1. If novelties are transported by aircraft, they must be classed, labeled, and described as Flammable Solid, Inorganic, n.o.s (Novelties), UN3178.**

* 3.2.1 **Party Popper** **Small devices with paper or plastic exteriors that are actuated by means of friction (a string or trigger is typically pulled to actuate the device.) They frequently resemble champagne bottles or toy pistols in shape. Upon activation, the device expels flame-resistant paper streamers, confetti, or other novelties and produces a small report. Devices may contain not more than 16 mg (0.25 grains) of explosive composition, which is limited to potassium chlorate and red phosphorus. These devices must be packaged in an inner**

packaging which contains a maximum of 72 devices.

* 3.2.2 **Snapper** Small, paper-wrapped devices containing not more than 1.0 mg of silver fulminate coated on small bits of sand or gravel. When dropped, the device explodes, producing a small report. Snappers must be in inner packages not to exceed 50 devices each, and the inner packages must contain sawdust or a similar, impact-absorbing material.

* 3.2.3 **Toy Smoke Devices** Small devices consisting of cork-like spheres, or cardboard or plastic tubes, containing not more than 5 g of pyrotechnic composition that produces a small cloud of smoke after activation. The devices are typically ignited by means of safety fuse. The outer configuration is usually a sphere (smoke ball), cylindrical tube, or paper cone. The chemical composition for white smoke consists of potassium nitrate and sulfur, while colored smokes are produced by mixtures consisting of potassium chlorate, sulfur or sugar, and a sublimable organic dye. Mixtures containing potassium chlorate must also contain a neutralizer/coolant such as sodium bicarbonate. To be eligible for not regulated status, these devices must produce smoke as their sole pyrotechnic effect following ignition, and must be packaged in inner units containing a maximum of 72 devices.

* 3.2.4 **Snakes, Glow Worms** Pressed pellets of pyrotechnic composition that contain 2 g or less of composition per article. Upon burning, they produce a snake-like ash that expands in length as the pellet burns. Chemical compositions vary, but typically contain ammonium perchlorate, nitrated pitch, asphaltum, and similar carbonaceous materials. These devices are limited to a maximum of 25 pellets per inner package in order to be transported as not regulated devices.

* 3.2.5 **Wire Sparklers, Dipped Sticks** These devices consist of a metal wire or wood dowel that has been coated with pyrotechnic composition. Upon ignition of the tip of the device, a shower of sparks is produced. Sparklers may contain up to 100 g of composition per item. Sparklers typically use barium nitrate as the oxidizer, with aluminum and dextrine as fuels. Iron filings produce the spark effect. Color-producing sparklers use potassium perchlorate as an oxidizer. Any sparkler containing a chlorate or perchlorate oxidizer is limited to a maximum of 5 g of composition per article. Sparklers must be packaged in inner packagings that contain 8 devices or less to be transported as not regulated devices.

* 3.3 **Toy Caps** Toy plastic or paper caps for toy pistols in sheets, strips, rolls, or individual caps, containing not more than an average of 0.25 grains (16 mg) of explosive composition per cap. Toy caps are described as Toy Caps NA0337 and classed as 1.4S. Toy caps shall only be approved for transportation using the procedure specified in Title 49 CFR, § 173.56(b).

* 3.4 **Other Devices** The Approvals Branch at DOT should be contacted regarding the requirements and procedures for approval of any device that is a unique shape or design, or any device that produces unique pyrotechnic or explosive effects, or combinations of effects not enumerated in Chapter 3 of this Standard.

*** 3.5 Multiple Tube Fireworks Devices and Pyrotechnic Articles**

* **3.5.1** Multiple tube devices contain more than one cardboard tube. The ignition of one external fuse causes all of the tubes to function in sequence. The tubes are either individually attached to a wood or plastic base, or are dense-packed and are held together by glue, wire, string, or other means that securely holds the tubes together during operation.

* **3.5.2** Multiple tube devices are normally limited to a maximum of 200 g of total pyrotechnic composition for approval as Fireworks, UN0336, 1.4G or Article, Pyrotechnic, UN0431, 1.4G under this Standard. (See 3.5.4 for exceptions.) The weight of chemical composition per tube is limited to the weight limit for the specific type of device in the tube. (See section 3.1 for the weight limits per tube, based on type of effect.)

* **3.5.3** The connecting fuses on multiple tube devices must be fused in sequence so that the tubes fire sequentially rather than all at once.

* **3.5.4** When the tubes are securely attached to a wood or plastic base, and the tubes are separated from each other on the base by a distance of at least 0.50 inch (12.7 mm), a maximum total weight of 500 g of pyrotechnic composition shall be permitted for approval as 1.4G.

*** 3.6 Specific Requirements for Consumer Fireworks**

*** 3.6.1 Fuse**

* **3.6.1.1** Only safety fuse or other fuse that has been protected to resist side ignition may be used in consumer fireworks devices subject to the requirements of this standard.

Note: See Appendix B for method of measuring resistance to side ignition. Devices, such as ground spinners, that require a restricted orifice for proper functioning and that contain less than 6 g of pyrotechnic composition, are not subject to the requirements of 3.6.1.1.

* **3.6.1.2** The fuse must be of sufficient length to burn at least 3 seconds but not more than 9 seconds before ignition of the device. The fuse for roman candles or similar devices requiring a longer fuse for safe functioning may burn up to 12 seconds before ignition of the device.

* **3.6.1.3** The fuse must be securely attached so that it will support either the weight of the device plus 8 ounces (227 g) of dead weight or double the weight of the device, whichever is less, without separation from the fireworks device.

* **3.6.1.4** The fuse on multiple tube devices must be fused in sequence between individual tubes.

*** 3.6.2 Construction**

APA, STANDARD 87-1

* **3.6.2.1 Bases** Each fireworks device that requires a base shall utilize a base of wood or plastic (preferably non-brittle, medium impact polystyrene.) The minimum horizontal dimension or the diameter of the base must be equal to at least ? the height of the device (excluding any protruding fuse,) unless the device remains upright when subjected to a tilt of 12° from the horizontal. Bases shall remain firmly attached to the item during transportation, handling and normal operation. (See Appendix B for method of measuring.)

Note: Multiple tube mine and shell devices which contain at least one launching tube with an inner diameter of 1.5 inches or greater must be stable when placed on a test fixture that holds the device at a 60° angle. This is a static test, the fireworks device is not ignited while at a 60° angle.

* **3.6.2.2 Sticks** The stick on a rocket (sky rockets and bottle rockets,) and on other fireworks devices that utilize a stick, shall be firmly attached to the body of the device by means of glue, staples, or wire. Sticks must be secure enough to remain firmly attached during transportation, handling, and normal operation. Sticks shall be rigid and of such length so as to assure stable flight. The maximum curvature of such stick(s) may not exceed 1 inch (25 mm.) (See Appendix B for method of testing rigidity.)

* **3.6.2.3 Handles** Each fireworks device which is intended to be hand-held, and is so labeled, must incorporate a handle at least 4 inches (101 mm) in length. Handles must remain firmly attached during transportation, handling, and normal operation of the device. Or, must consist of an integral section of the device which extends at least 4 inches (101 mm) below the pyrotechnic chamber. Sparklers 10 inches (253 mm) or less in length shall have handles at least 3 inches (76 mm) in length.

* **3.6.2.4 Spikes** Spikes which constitute an integral part of a fireworks device shall protrude at least 2 inches (51 mm) from the base of the device and shall have a blunt tip not less than 1/8 inch (3.2 mm) in diameter or 1/8 inch (3.2 mm) square.

* **3.6.2.5 Pyrotechnic Chamber** The pyrotechnic chamber in a fireworks device that functions other than by exploding must be of sufficient thickness and rigidity to allow normal functioning of the device without burnout or blowout. The chamber must also be constructed and sealed to prevent leakage of the pyrotechnic composition during transportation, handling, and normal operation.

* **3.6.2.6 Wings** Wings on helicopter-type rockets and similar devices must be securely attached to the body by means of gluing, wiring, or other appropriate means so that they will remain firmly attached during transportation, handling, and normal operation.

* **3.6.2.7 Wheel Devices** Each wheel device must be constructed so that the driver(s), motor(s), and axle(s), when needed (*i.e.*, on wheel devices intended to operate in a fixed location) remain securely attached to the device during transportation, handling, and normal operation.

* **3.6.2.8 Aerial Devices** Each device intended to produce a visible or audible effect high in the air must be designed to produce the effect at or near the apex of its flight.

* **3.6.2.9 Smoke Devices** Each smoke device must be constructed so that it will neither burst nor produce excessive flame (excluding fuse and small but brief bursts of flame accompanying normal smoke production.) Smoke devices may not contain plastic in direct contact with the pyrotechnic composition, nor may smoke devices resemble, in color and configuration, banned fireworks devices, such as M-80 salutes, cherry bombs, or silver salutes.

* **3.7 Prohibited Chemicals and Components**

* **3.7.1 Prohibited Chemicals** Consumer fireworks devices offered or intended for sale to the public may not contain a chemical enumerated in table 3.7-1, except for small amounts (less than 0.25% by weight) as impurities, and except as specified therein.

Note: Display fireworks and theatrical pyrotechnics (See section 2.15) are not subject to the provisions of this section.

* **TABLE 3.7-1 Prohibited Chemicals for Consumer Fireworks**

1. Arsenic sulfide, arsenates, or arsenites
2. Boron
3. Chlorates, except:
 - a. In colored smoke mixtures in which an equal or greater weight of sodium bicarbonate is included
 - b. In party poppers
 - c. In those small items (such as ground spinners) wherein the total powder content does not exceed 4 g of which not greater than 15% (or 600 mg) is potassium, sodium, or barium chlorate
 - d. In firecrackers
 - e. In toy caps
4. Gallates or gallic acid
5. Magnesium (magnesium/aluminum alloys, called magnalium, are permitted)
6. Mercury salts
7. Phosphorus (red or white) (red phosphorus is permissible in caps and party poppers)
8. Picrates or picric acid
9. Thiocyanates
10. Titanium, except in particle size that does not pass through a 100-mesh sieve
11. Zirconium
12. Lead tetroxide (red lead oxide) **and other lead compounds**

* **3.7.2 Prohibited Components** No component of any consumer fireworks device or novelty, may upon functioning, project or disperse any metal, glass, or brittle plastic fragments.

* **3.7.3 Forbidden Devices** Any device intended for sale to the public that produces an audible effect (other than a whistle) by a charge of more than 130 mg (2 grains) of explosive composition per report. Devices obtained for *bona-fide* pest control purposes in accordance with regulations promulgated by CPSC in Title

APA, STANDARD 87-1

16, CFR are not forbidden if approved in accordance with Title 49 CFR, § 173.56.

Note: For transportation purposes the term, forbidden devices, may also include mixtures or devices that contain a chlorate and an ammonium salt, or an acidic metal, salt. Or, devices that contain yellow or white phosphorus, devices that combine an explosive and a detonator or blasting cap. And, any device that has not been approved by DOT.

*** 3.8 Specific Requirements for Theatrical Pyrotechnics**

* **3.8.1** Theatrical pyrotechnics that are approved as UN0431, Articles, Pyrotechnic, 1.4G shall not bear a warning label that resembles the required wording on a consumer fireworks device. A warning label providing instructions to a trained operator is permitted, but alternative wording must be used.

* **3.8.2** Theatrical pyrotechnics may or may not have an ignition device attached.

* **3.8.3** All requests for approval of a device as Articles, Pyrotechnic shall be accompanied by a signed certification stating that the article is intended for professional use in the entertainment industry and will not be offered for sale to the general public.

* **3.8.9** Approvals for classification as Articles, Pyrotechnic shall be evaluated based on the weight of pyrotechnic composition in the individual article, and compared to the allowable weights for the corresponding category of 1.4G consumer fireworks. If a 1.4G classification is desired for an article containing more pyrotechnic composition than is permitted for a comparable consumer firework, the DOT approval procedure in Title 49 CFR, § 173.56(b)(1) shall be followed.

* **3.9 Approval.** All consumer fireworks (Fireworks, UN0336,) novelties and theatrical pyrotechnics offered for transportation in the United States shall be classified and approved for transportation purposes by DOT, in accordance with the following procedure:

***3.9.1** Fireworks and novelties containing mixtures of chemicals specified in table 4.3-1, but none of the chemicals prohibited by section 3.7. For each item in which approval is sought, manufacturers shall submit a copy of an approval application (see Appendix D) to DOT. DOT may issue an approval for the device as 1.4G based on the information contained in the form or, at its option, may require laboratory examination by a person approved by DOT to examine explosives.

* **3.9.2** Fireworks and novelties containing any chemical not specified in table 4.3-1, but none of the chemicals prohibited by section 3.7. For each item in which approval is sought, the manufacturer shall obtain a report from a person approved by DOT to examine explosives or, obtain a test report from a recognized competent authority (for fireworks manufactured abroad.) The manufacturer shall then submit an approval application (see appendix D) together with the appropriate examination reports to DOT. DOT may then issue approval based on the information contained in the application and accompanying laboratory reports, or may require additional information.

APA, STANDARD 87-1

* **3.9.3** Theatrical pyrotechnics containing only mixtures of chemicals specified in table 4.3-1. For each item in which approval is sought, manufacturers shall submit a copy of an approval application (see appendix D) to DOT. DOT may issue an approval for the device as 1.4G based on the information contained in the form. Or, at DOT's discretion, may require a report from a person approved by DOT to examine explosives or may require a test report from a recognized competent authority (for articles manufactured abroad.)

* **3.9.4** Theatrical pyrotechnics containing any chemical not specified in table 4.3-1. For each item in which approval is sought, the manufacturer shall obtain a report from a person approved by DOT to examine explosives or obtain a test report from a recognized competent authority (for articles manufactured abroad.) The manufacturer shall then submit an approval application (see Appendix D) together with the appropriate laboratory reports to DOT. DOT may then issue an approval based on the information contained in the application and accompanying laboratory reports.

* **3.9.5** If classification other than 1.4G is sought, the DOT approval procedure in Title 49 CFR, § 173.56(b)(1) must be followed. This includes obtaining a laboratory report from a person approved by DOT to examine explosives.

* **3.10 Marking and Labeling** Fireworks intended for consumer sale and use shall be labeled in conformance with the requirements of the *Federal Hazardous Substances Act* (FHSA) and regulations promulgated thereunder in Title 16 CFR, § 1500. All outside packaging containing fireworks must be marked and labeled in conformance with Title 49 CFR, § 172. (See appendix C and chapter 5 for details and examples.)

4. REQUIREMENTS FOR DISPLAY FIREWORKS DEVICES

Note: Devices in this category, formerly classed as Class B Explosives, Special Fireworks, are now classed as 1.3G, under the UN system and referred to as display fireworks.

* **4.1 Types of Display Fireworks Devices.** The following fireworks devices are subject to the requirements of chapter 4:

***4.1.1 Aerial Shell** A cylindrical or spherical cartridge containing **lift charge, burst charge and effect composition.** Shells are most commonly 2 inches (50 mm) to 6 inches (152mm) in diameter, and are fired from metal, high-density polyethylene (HDPE), fiberglass, or heavy cardboard tubes. Upon firing, the lift charge is consumed and the cartridge is expelled into the air. A pyrotechnic effect is produced near the apex of flight. Aerial shells are typically ignited by means of a quickmatch fuse or electric match. **Burst charge used in aerial shells is limited to black powder (potassium nitrate, sulfur, and charcoal) or similar pyrotechnic composition may not be approved under the provisions of this Standard as 1.3G articles. Aerial shells exceeding 10 inches (250 mm) in diameter or containing a burst charge that has metallic fuel may be approved under this Standard as Fireworks, UN0333, 1.1G.**

Note: All aerial shells that are not contained in a launch tube (section 3.1.2.5) or sold as part of a reloadable shell kit (section 3.1.2.6) may only be approved under the provisions of this Standard as Fireworks, UN0335, 1.3G.

* **4.1.2 Salute** Paper-wrapped, cardboard tube, or sphere containing explosive composition in excess of 130 mg (2 grains.) Upon ignition, noise and a flash of light are produced. **The maximum quantity of explosive composition in a salute shell, or in a salute component of a multi-effect shell, shall not exceed 2.5 oz (71 g) for approval under this Standard as a 1.3G article. Salutes or articles with salute components containing more than 2.5 oz (71g) of explosive composition per salute or per component may be approved under this Standard as Fireworks, UN0333 1.1G.**

* **4.1.3 Other Fireworks Devices**

* **4.1.3.1** When the quantity of explosive and/or pyrotechnic composition exceeds the limit for inclusion in the Fireworks, UN0336 category, devices enumerated in section 3.1 are classed as 1.3G and described as Fireworks, UN0335 (formerly described as Fireworks, Special and classed as Class B Explosives.) This includes multiple tube devices containing more than 200 g of total chemical composition, except as otherwise specified in section 3.5.

* **4.1.3.2** Certain devices intended for signaling, illuminating, and incendiary purposes such as: railway torpedoes; airplane flares; illuminating projectiles; incendiary and smoke projectiles; as well as flash cartridges (formerly classed as special fireworks,) no longer fall into the fireworks category under DOT regulations effective on 10/1/91 and are not part of this Standard.

* **4.2 Construction of Aerial Shells**

* **4.2.1** Each shell shall be identified only in terms of the inside diameter (not the circumference) of the mortar in which it can be safely used (e.g., 3 inches (76mm) shells are only for use in 3 inch (76mm) mortars.)

* **4.2.2** Each shell shall be constructed so that the difference between the inside diameter of the mortar in which it can be safely used and the outside diameter of the shell is not less than $\frac{1}{8}$ inch (3.2mm) and not more than $\frac{1}{4}$ inch (6.4mm) for shells not exceeding 3 inches (76mm) or $\frac{1}{2}$ inch (12.7mm) for shells larger than 3 inches (76mm.)

* **4.2.3** Each shell must be labeled with the type of shell, the diameter measurement, and the name of the manufacturer or distributor.

* **4.2.4** The length of the internal delay fuse and the amount of lift charge must be sized to insure proper functioning of the shell in its mortar. Quickmatch fuse, if required, must be long enough to allow not less than 6 inches (152mm) of fuse to protrude from the mortar after the shell is properly inserted.

* **4.2.5** The length of exposed black match on a shell, if required, may not be less than 3 inches (76mm) and the fuse shall not be folded or doubled back under the safety cap. Also, the time delay between ignition of the tip of the exposed black match and ignition of

APA, STANDARD 87-1

the lift charge may not be less than 3 seconds to allow the operator to retreat safely.

* **4.2.6** A safety cap shall be installed over the exposed end of the fuse, if ignition fuse is present. The safety cap must be of a different color than that used for the paper of the fuse.

* **4.2.7** If an electric match is attached to an aerial shell or other display firework prior to transportation, the requirements in section 5.8 must be complied with.

***4.3 Approval** Prior to being offered for transportation in the United States all display fireworks (Fireworks, 1.3G) must be classified and approved by DOT in accordance with the following procedures:

* **4.3.1** Devices containing only mixtures of chemicals specified in table 4.3-1. The manufacturer shall submit a copy of an approval application (see appendix D) to DOT for any item that has not previously been approved by DOT. DOT may issue an approval for the device based on the information contained in the form. Or, at its discretion, may require examination by a person approved by DOT to examine explosives, or may accept a test report from a recognized competent authority (for fireworks manufactured abroad.)

* **4.3.2** Devices containing any chemical not specified in table 4.3-1. For each item in which approval is sought, the manufacturer shall submit a sample of each pyrotechnic mixture that contains any chemical not specified in table 4.3-1 to a person approved by DOT to examine explosives. Or, the applicant may obtain a test report from a recognized competent authority (for fireworks manufactured abroad.) The manufacturer shall then submit an approval application (see appendix D), together with the appropriate laboratory reports to DOT. DOT may then issue approval based on the information contained in the application and accompanying laboratory report(s).

TABLE 4.3-1 Standard Fireworks Chemicals	
Chemical	Typical Use
Aluminum	Fuel
Ammonium Perchlorate	Oxygen Donor
Antimony	Fuel
Antimony Sulfide	Fuel
Barium Carbonate	Neutralizer
Barium Nitrate	Oxygen Donor
Barium Sulfate	Oxygen Donor
Bismuth Oxide	Oxygen Donor
Boric Acid	Neutralizer
Calcium Carbonate	Neutralizer
Calcium Sulfate	Oxygen Donor
Carbon or Charcoal	Fuel
Copper Metal	Color Agent
Copper Oxide	Oxygen Donor/Color Agent
Copper Salts (except Copper Chlorate)	Color Agent
Dextrine	Fuel/Binder
Hexamethylenetetramine (Hexamine)	Fuel
Iron and Iron Alloys (e.g., ferro/titanium)	Fuel
Iron Oxide	Oxygen Donor
Magnalium (Magnesium/Aluminum)	Fuel
Magnesium (in display fireworks and theatrical pyrotechnics only)	Fuel
Magnesium Carbonate	Neutralizer
Magnesium Sulfate	Oxygen Donor
Nitrocellulose (see Miscellaneous Compounds)	
Nitrocellulose Based Lacquers	Binder
Phosphorus, Red (only as provided in table 3.7-1)	Fuel
Potassium or Sodium Benzoate	Whistle
Potassium Bichromate (Potassium Dichromate) (not to exceed 5% of formulation)	Oxygen Donor
Potassium Chlorate (only as provided in table 3.7-1)	Oxygen Donor
Potassium Hydrogen Phthalate	Whistle
Potassium Nitrate	Oxygen Donor
Potassium Perchlorate	Oxygen Donor
Potassium Sulfate	Oxygen Donor
Silicon	Fuel
Sodium Bicarbonate (Sodium Hydrogen Carbonate)	Neutralizer
Sodium Nitrate	Oxygen Donor
Sodium Salicylate	Whistle
Sodium Salts (except Sodium Chlorate)	Color Agent
Sodium Sulphate	Oxygen Donor
Strontium Carbonate	Color Agent
Strontium Nitrate	Oxygen Donor
Strontium Salts (except Strontium Chlorate)	Color Agent
Strontium Sulfate	Oxygen Donor
Sulfur	Fuel
Titanium (particle size must not pass through 100 mesh sieve if 1.4G or 1.4S Fireworks)	Fuel

APA, STANDARD 87-1

Miscellaneous Compounds: Organic compounds may be compounds such as: lactose; shellac; red gum; chlorinated paraffin; and polyvinyl chloride that consist of some combination of carbon with hydrogen, oxygen and/or chlorine. Nitrogen may be present if it accounts for less than 10% (by weight) of the compound.

Nitrocellulose with not more than 12.6% nitrogen by mass, that meets the criteria for classification as a 4.1 flammable solid, is permitted as a propelling or expelling charge provided there is less than 15 g of nitrocellulose per article.

Note: Exact chemical identity of each organic compound must be included when submitting an approval application (appendix D) to DOT.

*** 4.4 Approval for Combination Devices for Display Purposes** When two or more articles of consumer or display fireworks, or theatrical pyrotechnics (already approved by DOT) are combined to form one unit, a separate approval for the combination device is not required if all of the following conditions are met:

* 4.4.1 The combination device is to be used for display or entertainment purposes, but is not intended for consumer use.

* 4.4.2 The combination device is constructed from approved fireworks, novelties, and theatrical pyrotechnics.

* 4.4.3 The combination device is transported by private carrier.

* 4.4.4 The assembled unit is transported using the EX numbers for the individual components.

* 4.4.5 If all components of the combination device have been approved as 1.4G articles, the combination item is classed as a 1.4G article provided that the total weight of pyrotechnic composition (including lift and effect charges) in the article does not exceed 200 g. (**see section 3.5 for exception**) The combination device shall be described as UN0431, Articles, Pyrotechnic, 1.4G if all of the components are approved as UN0431. Otherwise, the device shall be described as UN0336, Fireworks, 1.4G.

* 4.4.6 If one or more of the components has been classed as a 1.3G Article, or if the total weight of pyrotechnic composition (including lift and effect charges) is more than 200 g (**see section 3.5 for exception**), then the assembled unit is classed as a 1.3G Article. The combination device shall be described as UN0430, Articles, Pyrotechnic, 1.3G if all of the components are classed as either UN0430 or UN0431. Otherwise, the device shall be described as UN0335, Fireworks, 1.3G.

5. SHIPPING REQUIREMENTS

*** 5.1 Transportation Regulating Authorities** Transportation of fireworks is regulated by DOT. Some states and municipalities also regulate transportation of fireworks through their jurisdiction, often by incorporation of federal regulations.

APA, STANDARD 87-1

*** 5.2 Approval** Except for samples prepared in accordance with DOT regulations, or unless specifically permitted by this Standard, no fireworks device or novelty may be offered for transportation or transported until it is classed and approved by DOT, and an approval number (EX number) is issued (Title 49 CFR, § 173.56.) (see chapters 3-4 and appendix D)

*** 5.2.1** EX numbers for fireworks contained in a shipping carton must be marked on the shipping carton or on the shipping paper.

*** 5.2.2** Cartons containing 5 or more different fireworks devices must be marked with at least 5 of the EX numbers covering items in the carton, or the EX numbers must appear on the shipping paper. (Title 49 CFR, §172.320(c) and (d))

*** 5.3 Packaging** With certain exceptions, Consumer Fireworks UN0336, Display Fireworks UN0335, Articles Pyrotechnic UN0431 and Novelties, must be securely packaged in containers complying with DOT regulations Title 49 CFR, § 178. Gross weight limitation per package is now dictated by the weight marked on the certified packaging. Articles with match or friction tip ignition must be packed so that each individual tip is protected against accidental contact or friction. Loose chemical composition may not be present in packages in transportation. (Title 49 CFR, §172.102(c), Special Provision (108))

*** 5.4 Placards** Unless otherwise provided, each motor vehicle, freight container and rail car must bear appropriate placards on each end and each side (Title 49 CFR, § 172.504 (a).) Vehicles containing packages of consumer fireworks or novelties which are labeled 1.4G require a 1.4G or Explosive 1.4G placard (Title 49 CFR, § 172.523,) and use of the word explosive is optional (Title 49 CFR, § 172.519(b)(3),) except highway and rail shipments of less than 1,000 pounds gross weight of such fireworks need not bear a placard (Title 49 CFR, § 172.504(c).) Vehicles containing display fireworks in any quantity require a 1.3G or Explosive 1.3G placard (Title 49 CFR, § 172.522) and use of the word explosive is optional (Title 49 CFR, § 173.519(b)(3).) If both 1.4G and 1.3G are present in a shipment, the 1.3G placard is required, and the 1.4G placard is not needed.

*** 5.5 Package Marking and Labeling** Each person who offers fireworks for transportation shall ensure that the package displays the appropriate square-on-point label (Title 49 CFR, § 172.400(a) and 172.411.) Use of the word explosive on the 1.3G and 1.4G labels is not required (Title 49 CFR §172.405(a).) Consumer fireworks, toy smoke devices, and trick noisemakers are either classed as 1.4G, 1.4S, or not regulated for transportation purposes. Display fireworks are classed as 1.3G (Title 49 CFR, § 172.101.) The label must be printed or affixed to the surface of the package near the proper shipping name and identification number, which are also required to appear on the package (Title 49 CFR, § 172.301(a).)

*** 5.6 Shipping Papers** Each person who offers a fireworks device or novelty for transportation shall describe the item on a shipping paper. The description must include the proper shipping name (see Title 49 CFR § 172.101, hazardous materials table, col. 2) the hazard class of the material (col. 3,) the identification number (col. 4,) the packing group (col. 5,) and the total quantity covered by the description (Title 49 CFR § 172.202(a).) Consumer fireworks should be described as follows: Fireworks, 1.4G, UN 0336, PG II, x lb. *or* kg. Display fireworks should be described as Fireworks, 1.3G, UN 0335, PG II, x lb. *or* kg. In

APA, STANDARD 87-1

addition, the shipper shall certify that the shipment is properly classified, marked and labeled (Title 49 CFR § 172.204(a).)

Note: EX numbers shall also appear on shipping papers unless they are marked on each shipping carton.

* 5.7 Special Packaging Provisions for Transportation in a Motor Vehicle by Private Carrier

* 5.7.1 Fireworks articles such as large set pieces, that are too large to be readily placed into fiberboard cartons, shall be permitted to be transported without external packaging to a display site provided that the articles are securely attached to the inside walls of the vehicle by means of wire, wood, or rope and provided that all fuse is protected against accidental ignition by means of a paper covering or paper end cap. All other packages in the vehicle shall be secured to prevent accidental movement and contact with the unpackaged articles.

* 5.7.2 Fusees (highway flares) for use in a fireworks display shall be permitted to be transported in a motor vehicle with fireworks, provided that the flares are properly packaged in accordance with Title 49, CFR.

* 5.7.3 Display fireworks remaining unfired at the conclusion of a display shall be permitted to be repacked in the certified packaging used to bring the fireworks to the display site. The maximum gross weight (printed as part of the box certification marking) authorized for a fiberboard carton shall not be exceeded. The fireworks shall be removed to authorized storage, by means of motor vehicle, as soon as possible following the display.

* 5.7.4 Misfired devices that are to be returned from the display site to the supplier shall be packed separately from unused, unfired devices, and shall be transported only by private motor carrier.

* 5.8 Requirements for an Electric Match (Igniter) Attached to a Display Firework Prior to Transportation

* 5.8.1 Fireworks with electric matches attached shall only be transported from a fireworks manufacturer's or display operator's facility to a fireworks display site, or to an approved storage for subsequent shipment to a display site.

* 5.8.2 The fireworks and the electric matches must be separately approved and assigned EX numbers in accordance with Title 49 CFR, § 173.56.

* 5.8.3 Report shells (salutes) that exceed 3 inches in diameter or contain more than 70 g (2.5 oz) of salute powder shall not be transported with electric matches attached.

* 5.8.4 All electric matches that are pre-attached to fireworks for transportation must be certified by the manufacturer to be thermally stable at 150° C for 24 hours.

* 5.8.5 All electric matches that are pre-attached to fireworks for transportation shall be rated by the manufacturer to have a no fire current of not less than 0.20 amperes (*i.e.*, the

APA, STANDARD 87-1

match does not ignite when tested with a current of less than 0.20 amperes.)

* **5.8.6** The electric match shall be securely attached to the fuse or to the lift charge so as to prevent significant movement of the igniter.

* **5.8.7** When the electric match is placed directly into the lift charge of a firework, the electric match shall have a covering (shroud) placed over the match head itself.

* **5.8.8** The leg wires of the electric match shall be shorted (shunted) at all times during transportation.

* **5.8.9** The transportation of any UN0335, Fireworks, 1.3G with attached electric matches by aircraft is prohibited.

6. REFERENCES

* **6.1** Title 49 CFR, § 171-180, DOT This document can be found online at www.access.gpo.gov/nara/cfr/waisidx_99/49cfrv2_99.html. A hard copy may be purchased from: Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402, or as republished by Bureau of Explosives as Hazardous Materials Regulations of the Department of Transportation, Association of American Railroads, 50 F Street, NW, Washington DC 20001.

* **6.2** Title 16 CFR, § 1000 to End, CPSC This document can be found online at: www.access.gpo.gov/nara/cfr/waisidx_00/16cfrv2_00.html. A hard copy may be purchased from the US GPO (see section 6.1 for address.) Extracts of these regulations pertaining to fireworks only may be purchased from the American Pyrotechnics Association.

*Fireworks**17***Stevenson, Todd A.**

From: George Forster [George.Forster@halliburton.com]
Sent: Thursday, August 10, 2006 10:39 PM
To: Stevenson, Todd A.
Subject: FIREWORKS ANPR

Hi I am currently over here in Iraq and I keep hearing that our freedoms are being taken away by our own government the same government that is over here trying to get the Iraqis their freedom.. if the actions of the US government is to take away the simple rights of freedom of by simple chemicals for fireworks then the Iraqis should be very scared that this will happen to them, the US government has no business in what private citizens do on their own time. If the basis of people getting hurt is from 4 people getting killed so what,, how many people killed each day by riding a bicycle or riding a lawn mower,, the CPSC is way out of line,, pretty soon the people are going to BE MORE AFRAID of the US GOVERNMENT than what any Terrorist organization will ever threaten to do. It's a simple fact.

A country is more powerful or wields more influence when its people control the government. A country is less powerfull when its own people are afraid of its own government.

George Forster
Driver Support
Logcap III DOL Traffic Anaconda,Iraq
713-445-4103

This e-mail, including any attached files, may contain confidential and privileged information for the sole use of the intended recipient. Any review, use, distribution, or disclosure by others is strictly prohibited. If you are not the intended recipient (or authorized to receive information for the intended recipient), please contact the sender by reply e-mail and delete all copies of this message.

8/11/2006

Jake's Fireworks, Inc.

8

OKLAHOMA WAREHOUSE
17824 S. Sooner Rd.
Norman, OK 73071
405-321-4886
wcfwrks@sbcglobal.net
www.jakesfireworks.com

OFFICE & WAREHOUSE
689 S. Hwy 69
Pittsburg, KS 66762
620-231-2264
Fax: 620-231-2416
wcfwrks@sbcglobal.net
www.jakesfireworks.com

TEXAS WAREHOUSE
7010 Hwy 19 S.
Athens, TX 75751
903-264-2264
Fax: 903-264-2416
ksbone@sbcglobal.net
www.jakesfireworks.com

SOUTH CAROLINA WAREHOUSE
130 Red River Road
PO Box 157
Wagener, SC 29164
803-564-2264
Fax: 803-564-2416
jlawson@jakesfireworks.net

Fireworks

August 18, 2006

Office of the Secretary,
Consumer Product Safety Commission, Room 502
4330 East-West Highway
Bethesda, Maryland 20814

Re: Fireworks ANPR

Dear Sir or Madame:

This is in response the Fireworks ANPR posted by CPSC to the Federal Register on July 12, 2006. I have serious reservations for what the ANPR is proposing. Although I support all efforts to strengthen safety and regulation of the fireworks industry, I question the success of a private sector organization steering government regulation and rulemaking.

AFSL has performed the tasks of establishing a standard for items and tested product accordingly. The question, however, is who benefits the most from the standards? Is it the consumer, the industry, or the AFSL board? AFSL has been in existence for seventeen years. Since the establishment of the organization, only select companies have had representation on the AFSL Board. There have been numerous incidents over the years when members requested to run for the Board of Directors only to be told that there are too many qualified nominees and that their name will not be allowed on the ballot.

It is my contention that AFSL is not a true cross-section of the fireworks industry. The AFSL Board of Directors continually reflects the same companies and philosophies. There is no room on the Board for new people or fresh ideas. This stagnant approach the AFSL has adopted causes me to fear that their intentions may not be completely altruistic. Adopting AFSL Standards as CPSC regulations will place too much power in the hands of a single organization. This shift of power may enable AFSL Board Members to use standards as a vehicle to obtain personal objectives and alienate competitors. In simple terms, you may be having the fox the watch the hen house.

I promote safety in our industry. I respect CPSC's desire to establish and enforce rules and regulations that will protect the consumer. I will support CPSC's efforts to encourage a safer product for the US consumer. I cannot, however, condone the use of AFSL's standards being used as a government standard. Historically, AFSL represents only a few elite organizations – and not the industry as a whole.

As always, please feel free to contact me with any further questions or comments regarding this matter.

2006 AUG 24 A 11: 35
FREEDOM OF INFORMATION

DIRECT IMPORTER

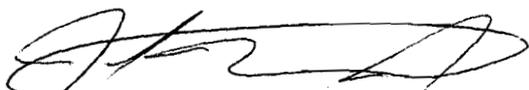


DISTRIBUTOR



MANUFACTURER

Best regards,

A handwritten signature in black ink, appearing to read 'John Marietta, Jr.', written in a cursive style.

John Marietta, Jr.
Co-owner

August 18, 2006

Office of the Secretary,
Consumer Product Safety Commission, Room 502
4330 East-West Highway
Bethesda, Maryland 20814

Fireworks 7
CPSC/DFC OF THE SECRETARY
FREEDOM OF INFORMATION

2006 AUG 24 A 11:35

Re: Fireworks ANPR

To Whom It May Concern:

I am writing in response to the Fireworks ANPR posted by CPSC to the Federal Register on July 12, 2006. I am concerned with the effectiveness of a private organization steering government regulation and rulemaking. As I do support efforts to brace safety and regulation of the fireworks industry, I do question the judgment of the private organizations solely controlling the government regulations.

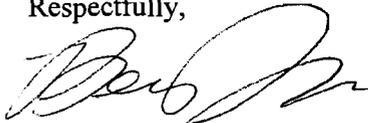
Some questions arise from the decision made including who will benefit from these standards? Since the existence of AFSL only a handful of companies have had representation on the Board of Directors. When the Board of Directors is only represented by these select companies the decisions made reflect only those opinions of the represented companies, not the entire membership.

With the Board's decision to adopt AFSL Standards as CPSC regulations I am concerned with the amount of power that will be placed with a single organization. The overabundance of power may enable AFSL Board Members to consider only personal objectives and isolate the competitors.

I have the up most respect for CPSC's intentions to enforce safety regulations. I support all the measures that are taken to promote a safe product for consumers but I cannot support using AFSL's standards as a government standard while they do not represent the entire fireworks industry.

If you have any concerns or questions, please feel free to contact me regarding this matter.

Respectfully,



Ben Turner
Pacific Northwest

CPSC/OFC OF THE SECRETARY
FREEDOM OF INFORMATION

2006 AUG 31 A 10:43

August 20, 2006

10
Wild Bill's Fireworks
321 Valley Park Dr.
Branson, MO 65616

Office of the Secretary,
Consumer Product Safety Commission, Room 502
4330 East-West Highway
Bethesda, Maryland 20814

Re: Fireworks ANPR

To Whom It May Concern:

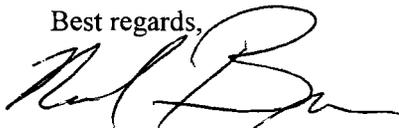
This is in response to the Fireworks ANPR posted by CPSC to the Federal Register on July 12, 2006. This would be a bad move for the fireworks industry. I encourage all efforts to maintain the safety and regulation of the fireworks industry, but why is this being considered? Having a self-serving organization control an entire industry is not in the best interests of all consumer fireworks retailers and wholesalers.

Since the founding of AFSL, only select companies have had a chance to be heard by the AFSL and its board. They run a club that is only worried about a select few companies and their own interests. I think it would be a mistake to give them the power to regulate the fireworks industry. The AFSL Board of Directors continually reflects the same ideas. Giving them this power may enable AFSL Board Members to use the standards as a tool to run off the competition.

I promote safety in our tents and stands. I support CPSC's desire to establish and enforce rules and regulations that will protect the consumer. I will also support CPSC's efforts to encourage a safer product for the consumer. I cannot, in any way, shape or form, condone the use of AFSL's standards being used as a government standard. Their stance on reloadable artillery shells is a perfect example. They are trying to kill a product that is safer than ones their own rules permit. This would be a mistake for the fireworks industry.

Should you have any questions, please feel free to contact me regarding this matter.

Best regards,



Noel Braun

CPSC/DFC OF THE SECRETARY
FREEDOM OF INFORMATION

2006 AUG 24 P 3:36

Fireworks Supercenter
107 Creek View Ct.
Weatherford, TX 76088

Fireworks 11

August 21, 2006

Office of the Secretary,
Consumer Product Safety Commission, Room 502
4330 East-West Highway
Bethesda, Maryland 20814

Re: Fireworks ANPR

To Whom It May Concern:

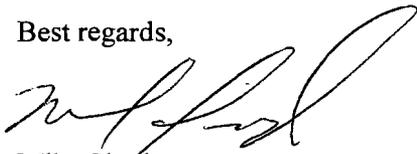
This is in response to the Fireworks ANPR posted by CPSC to the Federal Register on July 12, 2006. I am scared of what the ANPR is proposing. I support all efforts to ensure the safety and regulation of the fireworks industry, but I must question the logic of having a private organization controlling government regulation.

AFSL has been in existence for seventeen years and since the establishment of the organization, only select companies have had representation on the AFSL and its board. They run a club that is only worried about a select few companies. Having dealt with them on several issues, I think it would be a mistake to give them the power to regulate the fireworks industry. The AFSL Board of Directors continually reflects the same companies. Giving them this power may enable AFSL Board Members to use standards as a tool to more easily obtain their companies objectives and squash the competition.

I promote safety in our company's outlets. I respect CPSC's desire to establish and enforce rules and regulations that will protect the consumer. I have and will support CPSC's efforts to encourage a safer product for the consumer. I cannot, however, condone the use of AFSL's standards being used as a government standard. This would be a mistake for the fireworks industry.

Should you need anything, please feel free to contact me with any further questions or comments regarding this matter.

Best regards,



Mike Singletary
Fireworks Supercenter

Wholesale Fireworks Enterprises, LLC
1611 W. Ledgerwood Dr
Andover, KS 67002

CPSC/OFC OF THE SECRETARY
FREEDOM OF INFORMATION

August 21, 2006

2006 AUG 28 P 2:45

Office of the Secretary,
Consumer Product Safety Commission, Room 502
4330 East-West Highway
Bethesda, Maryland 20814

Re: Fireworks ANPR

Commissioners:

I am responding to the Advanced Notice of Proposed Rulemaking issued on July 12, 2006 concerning the updates and strengthening of fireworks regulations. As I am a strong advocate of consumer safety and protection, my primary concern is that any changes to these regulations are in direct pursuit of these goals.

It is the responsibility of the CPSC to research consumer safety issues, to evaluate and review the results of this research and to inevitably determine the proper regulatory actions in order to reach a reasonable level of protection for the consumer. Sounds simple enough when stated like that. Unfortunately, like most tasks in life, is not as easy as it sounds. The task requires a strong commitment, a sense of purpose and a clear focus on a well-defined goal that meets the objectives of the commission.

After reading through the ANPR, I had a very unsettling feeling that the commission charged with the task described above would allow itself to be steered into wholesale regulation changes. It further bothered me that this commission would allow a single entity that may or may-not represent a reasonable cross-section of the fireworks industry to gain such a foothold in the commissions direction. Where is the Commissions research and deliberation in the need for further regulation? In this document I see the words "According to AFSL" which indicates to me that the Commission is accepting the opinion of one group as the industry supported opinion without so much as verifying the roots of the source.

I am reminded of the small town whose city commission decided that a city manager was needed to relieve the day-to-day burden of city operation for the commissioners. Soon the city manager was making all the decisions for the town and the commissioners had become so out of touch with the workings of the city that their vote became a rubber stamp for the city managers whims.

If the commission decides that there are voids in the current body of regulations, if the commission decides that new regulations are needed to more fully protect consumers, then it must be the commission that leads this change. Please do not allow change to regulations for the sake of the appearance of accomplishment. Please do not allow the influence of a single group to be accepted as the desires of the entire industry.

Thank you for your time and please feel free to contact me if you wish.

Larry Hale
Operations Manager

Far East Imports, Inc.
5521 N Main
Joplin, MO 64801

CPSC/OFC OF THE SECRETARY
FREEDOM OF INFORMATION

2006 AUG 28 P 2:45

August 22, 2006

Office of the Secretary,
Consumer Product Safety Commission, Room 502
4330 East-West Highway
Bethesda, Maryland 20814

Re: Fireworks ANPR

Commissioners:

It has recently been brought to my attention that the CPSC is considering regulation changes concerning consumer fireworks. As you know, this is a field that is under constant scrutiny by State and local governing bodies, which have many agendas for their concerns. Most of these concerns are focused around property damage, which of course is driven by insurance companies. Your organization is the main protector of humans in this equation. CPSC regulations are designed to assure that the products manufactured or imported into the U.S. meet a level of composition and performance that provides protection for the consumer. The CPSC concerns are based more directly on bodily injury and to a lesser extent propriety damage. As an importer it is CPSC regulations that most effect the portion of the fireworks industry that involves my company.

When reading the ANPR on proposed changes I found options on the direction changes could take, but I could not find supporting reason for any change. I am a strong supporter of consumer safety and consumer protection. It pains me every time I hear of a personal injury due to the misuse of a firework, but in the same breath I realize that no activity can ever be completely safe when humans are involved. The APA shows that fireworks usage has soared in the past few years, but the personal injuries pre-capita of usage has declined. I think this fact alone indicates that the CPSC and its current regulations are doing a pretty good job.

As for testing, there are many testing facilities that provide comprehensive testing that meet regulations and on a voluntary basis exceed those regulations. The claim by AFSL that their guidelines are the ones that the industry has adopted is absurd. Like any industry the true driver of change is watching your competitor and then utilizing what they do better in your processes. Every tester out there has something they do that sets them apart from the rest in that specific procedure or process. The concept that we call "Best In Practices" in today's lingo.

In closing I would like to remind each commissioner that the injury statistics do not reflect some great void in the CPSC regulation or the manner that the fireworks industry is meeting the challenge of safe product development. If it did, I would be the first to write to tell you, but instead it shows that of the most injuries can be attributed to misuse in one way or another. We cannot stop people from making bad decisions (for whatever reason) that lead to injuries, but if there is a gain to be made, I feel that the consumer is the key.

I thank you for taking the time to review my comments and I hope that if nothing else I have given you proof that there are more voices out here than the voice of the AFSL.

Jake Marietta
President Far East Imports, Inc.

✓
Fireworks
14

~~Stevenson, Todd A.~~

From: John MacLennan [macselec@comcast.net]
Sent: Monday, August 28, 2006 3:58 PM
To: Stevenson, Todd A.
Subject: Fireworks ANPR

Being an elected city alderman and chair of the City of Prescott's Ordinance Committee I have several questions I would like answered. I read in a document posted by Todd a. Severson, Secretary, CPSC written 7/11/06, That there is a CPSC list of Banned fireworks for sale to consumers and the use there of. I further read that in a listing put out by the APA, the State of WI bans, or prohibits, the possession and use of, Firecrackers, Roman Candles, Salutes, Bombs, Skyrockets, and Wheels. Yet they are being advertised for sale by a local Fireworks Dealer. The City Administrator and City Clerk does not know of any municipal permit or license issued to this dealer in the past to possess, offer for sale, or store fireworks in the City of Prescott. This information came about from the City getting a new Fire Chief who addressed the fact that there are Fireworks stored in a storage building that the Fire

Dept has no record of ever issuing a permit for. The Dealer also cannot produce any documentation allowing for storage of Fireworks or any document showing the building was inspected and approved by Prescott's Fire Chief. Prescott's Ordinance specifies 500 ft from a dwelling and the dealer has requested that we change our ordinance to meet the State of WI's law of 50 ft.

I am looking for a list of CPSC illegal or banned fireworks for my file. Hopefully it will be as per states.

Thanks for reading my letter. John MacLennan Alderman at Large for the City of Prescott WI

Eric Middendorf
B&B Fireworks
451 Johnson Drive
Russellville, KY 42276

August 28, 2006
Office of the Secretary,
Consumer Product Safety Commission, Room 502
4330 East-West Highway
Bethesda, Maryland 20814

Re: Fireworks ANPR

Dear Sir or Madame:

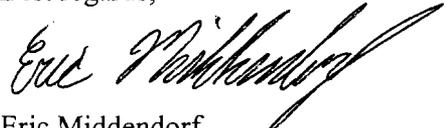
This is in response the Fireworks ANPR posted by CPSC to the Federal Register on July 12, 2006. Allowing an outside organization (such as the AFSL) to tell a government related body (such as the CPSC) what to do seems ridiculous to me.

The AFSL represents only a small sample size of the entire fireworks industry. With only a small amount of companies being represented, it is easy to question who is actually benefiting from these AFSL standards and policies. Are these AFSL policies good for the entire fireworks industry, or are they only helping the AFSL affiliated companies?

I promote safety in the fireworks industry and have for many years. I also respect the CPSC and the hard work that they put forth to keep the consumers safe. I just question the use of standards from a private organization being universally adopted as a government standard.

As always, feel free to contact me with any further questions or comments regarding this matter.

Best regards,



Eric Middendorf

CPSC/OFC OF THE SECRETARY
FREEDOM OF INFORMATION
2006 AUG 31 A 10:43

*Fireworks
ANPR 16*

Stevenson, Todd A.

From: FerPeteSak@aol.com
Sent: Thursday, August 31, 2006 6:29 AM
To: Stevenson, Todd A.
Subject: Fireworks ANPR

The American Fireworks Standards Laboratory (AFSL) has developed voluntary standards pertaining to fireworks. The AFSL standards incorporate both CPSC and Department of Transportation regulations as well as a number of standards developed by AFSL that are in addition to Federal requirements..

Why is this insufficient? What data supports your position?

INTERNATIONAL FIRE MARSHALS



ASSOCIATION

*Fireworks
ANPR 17*

NFFPA
1 Batterymarch Park
Quincy, MA 02269-9101 USA
Phone: (617) 984-7424
Fax: (617) 984-7056
E-mail: ifma@nfpa.org

September 5, 2006

Office of the Secretary
Consumer Product Safety Commission
Room 502
4330 East-West Highway
Bethesda, MD 20814

RE: Fireworks ANPR, Federal Register 71 FR 39249

CPSC/OFC OF THE SECRETARY
FREEDOM OF INFORMATION
2006 SEP - 1 P 1:51

The International Fire Marshals Association (IFMA) would like to respond to your solicitation for comments in your advance notice of proposed rulemaking (ANPR) published in the Federal Register 71 FR 39249, July 12, 2006.

The number of deaths, injuries and fire associated with consumer use of fireworks is unacceptable. The amount of fireworks used by consumer's increases each year and so does the number of incidents. The National Fire Protection Association (NFPA) Annual Fireworks Report as well as the CPSC Annual Fireworks Report shows an increase in the number of deaths and injuries from consumer use of fireworks. These numbers are alarming based on the short term use, usually a few weeks during the month of July and other holidays, and the number of incidents. What these numbers do not show is the additional number of injuries incurred by fire fighters and other emergency responders who respond to these incidents. The majority, forty-four percent, of the victims are under age 15. These victims are either given sparklers to hold or are the innocent victims of others using fireworks. We believe that the people affected, the number of deaths and injuries, and fire loss is unacceptable.

IFMA has been against the consumer use of fireworks for over 60 years. IFMA has been the custodian of the Model Fireworks Law (a copy is attached) which prohibits use of fireworks by consumers. This law is the basis for many areas that prohibit the consumer use of fireworks. We would urge the CPSC to adopt the IFMA Model Fireworks Law as the model law for the nation to prohibit consumer fireworks sales and possession by the public.

The increase in deaths, injuries and fires cited by the statistics provide additional support and added urgency to our position advocating against the use of fireworks by consumers. Current regulations, except for those areas that prohibit the sale and use of consumer fireworks, have not provided the public with the adequate safety against these devices. IFMA maintains its position and will continue to urge people to attend public displays organized and conducted by professionals and to not use them themselves. When that happens, we can begin to prevent these needless deaths, injuries, and fires from consumer fireworks.

Sincerely,

Jon Nisja
President

Attachments: IFMA Model Fireworks Law, 2006

MODEL FIREWORKS LAW



2006 Edition

International Fire Marshals Association
1 Batterymarch Park
Quincy, MA 02269-9101
(617)984-7424 Fax: (617)984-7056

Model Fireworks Law 2006

IFMA Executive Board 2005

President Scott Adams, Fire Marshal, Park City Fire District, UT

First Vice President Jon Nisja, Minnesota State Fire Marshals Office, St. Paul, MN

Second Vice President Jimmy Hill, Deputy Chief/Fire Marshal, Los Angeles City Fire Department, Los Angeles, CA

Secretary Charles "Ed" Altizer, State Fire Marshal, Virginia State Fire Marshals Office, Richmond, VA

Immediate Past President John F. Bender, Chief Fire Protection Engineer, Maryland State Fire Marshals Office, Pikesville, MD

Ken Crews, Fire Marshal, Durham Fire Department, Durham, NC

R. T. Leicht, Chief Fire Protection Specialist, Delaware State Fire Marshals Office, Wilmington, DE

David Lind, Fire Marshal, North Shore Fire Department, Bayside, WI

Steven Peavey, Deputy Fire Marshal, Altamonte Springs Building/Fire Safety, Altamonte Springs, FL

Executive Secretary Steven F. Sawyer, NFPA, Quincy, MA

Model Fireworks Law 2006 Edition

This edition of the *Model Fireworks Law* was prepared by the International Fire Marshals Association and published by NFPA. The NFPA Standards Council reviewed this model law at its October 2005 meeting for consistency with the policies of NFPA. This edition of the Model Fireworks Law supersedes all previous editions.

Origin and Development of the *Model Fireworks Law*

The National Fire Protection Association was among the pioneers who sought relief for the public from injuries and fires resulting from indiscriminate use of fireworks. Its efforts progressed from propagandizing during the early years of this century to a suggested municipal ordinance and then to a *Model State Fireworks Law*. The *Model State Fireworks Law* was first adopted by the NFPA in 1938. In 1949, the model law was amended to exclude from its provisions certain toy paper caps and devices for using them.

The *Model State Fireworks Law* found prompt acceptance in many states. Its basic philosophy, which is the restriction of the use of all fireworks, except toy paper or plastic caps, to authorized public displays, is incorporated in the laws of several states.

The *Model State Fireworks Law* was amended in 1972 and 1974. In 1978, its designation was changed from NFPA 494L to NFPA 1 121L. NFPA 1 121L was amended in 1982.

In 1988, the Board of Directors of the National Fire Protection Association transferred custody of the model law from the NFPA Committee on Pyrotechnics to the Fire Marshals Association of North America (now known as the International Fire Marshals Association). The model law was amended in 1991 to be readily adoptable by both state and local jurisdictions. Further changes include a provision that makes possession of fireworks by the general public illegal and violations of the law that result in a fire, personal injury, or death a felony offense.

The 2000 edition updated the law to reflect current fireworks classification, laws, and codes and standards.

The 2006 edition reaffirmed the 2000 edition.

**Model Fireworks Law
2006 Edition**

**BE IT ENACTED BY THE (GOVERNING BODY)
OF THE (JURISDICTION)**

1. No person, firm, or corporation shall possess, offer for sale, expose for sale, sell at retail, or use or explode any fireworks, except as herein provided.

2. Fireworks. Any composition or device for the purpose of producing a visible or an audible effect by combustion, deflagration, or detonation, and which meets the definition of "consumer (Explosive's 1.4G)", "theatrical and novelty (Explosives 1.4S)" or "display (Explosive's 1.3G)" fireworks as set forth in the U.S. Department of Transportation's (DOT) Hazardous Materials Regulation, Title 49, *Code of Federal Regulations (CFR)*, Parts 171-180.

Exception No. 1: Toy caps for use in toy pistols, toy canes, or toy guns, and trick noisemakers manufactured in accordance with DOT regulations, 49 CFR 173.100 (p),¹ and packed and shipped according to said regulations.

Exception No. 2: Model rockets and model rocket motors designed, sold, and used for the purpose of propelling recoverable aero models.

Exception No. 3: Propelling or expelling charges consisting of a mixture of sulfur, charcoal, saltpeter are not considered as designed to produce audible effects.

3. The authority having jurisdiction shall be permitted to adopt reasonable rules and regulations for the licensing of individuals or granting of permits for supervised displays of fireworks by municipalities, fair associations, amusement parks, and other organizations or groups of individuals. Such permits shall be permitted to be granted upon application to the authority having jurisdiction and approval in accordance with the regulations for the display and filing of a bond by the permit application. (*See NFPA 1123, Code for Fireworks Display and NFPA 1126, Standard for the Use of Pyrotechnics before a Proximate Audience.*)

4. Every such display shall be handled by a competent operator, licensed or certified as to competency by the authority having jurisdiction. Every such display shall be of such composition and character and shall be located, discharged, or fired so as, in the opinion of the authority having jurisdiction, after proper site inspection, not to be hazardous to any person or property. After such privileges have been granted, sales, possession, use, and distribution of fireworks for such displays shall be lawful for that purpose only. No permit granted hereunder shall be transferable.

5. Before any permit for a pyrotechnic display shall be issued, the person, firm, or corporation making application therefore shall furnish proof of financial responsibility to satisfy claims for damages to property or personal injuries arising out of any act or omission on the part of such person, firm, or corporation or any agent or employee thereof, in such amount, character, and form as this jurisdiction determines to be necessary for the protection of the public.

6. Nothing in this law shall be construed to prohibit any of the following:
- (a) The sale, at wholesale, of any fireworks for supervised displays by any approved resident manufacturer, wholesaler, dealer, or jobber, in accordance with regulations of the U.S. Bureau of Alcohol, Tobacco, and Firearms (*see Title 27, Code of Federal Regulations, Part 181*) and the U.S. Department of Transportation.
 - (b) The manufacture, transportation, or storage of fireworks at a manufacturing facility. The testing of fireworks under the direction of its manufacturer provided permission for such testing has been obtained from the authority having jurisdiction.
 - (c) The sale, transportation, handling, or use of industrial pyrotechnic devices or fireworks, such as railroad torpedoes, fusees, automotive, aeronautical, and marine flares and smoke signals.
 - (d) The sale and use of blank cartridges for use in a show or theater; for signal or ceremonial purposes; in athletics or sports; or legal power tools.
 - (e) The transportation, handling, or use of any pyrotechnic devices by the armed forces of the United States.
 - (f) The use of pyrotechnics in training by the fire service, law enforcement, or similar government agencies.
 - (g) The use of fireworks for agricultural purposes under the direct supervision of the U.S. Department of the Interior or an equivalent state or local agency. [See *Title 16, Code of Federal Regulations, Part 1500.17(a)(8)*.]
7. The authority having jurisdiction shall seize, take, remove, or cause to be removed at the expense of the owner all stocks of fireworks offered or exposed for sale or stored or held in violation of the law.²
8. Any person, firm, or corporation violating the provisions of this law shall be guilty of a misdemeanor.
9. Any person, firm, or corporation violating the provisions of this law, which results in a fire, personal injury, or death, shall be guilty of a felony.
10. Any provisions of this law held to be unconstitutional shall not invalidate the remainder thereof. Any acts, laws, or parts of laws in conflict with any provision of this law are hereby repealed to the extent of the conflict.

¹ The regulations referred to limit the explosive content of each cap to not more than an average of 0.25 grains (16mg). Also, each package containing such caps must be labeled to indicate the maximum explosive content per cap.

² Where no provision in law already exists for the disposition of goods seized in violation of this law, appropriate provisions shall be enacted for the legal disposition of fireworks by the authority having jurisdiction following conviction for such violation.

Stevenson, Todd A.

Fireworks ANPR
18

From: rj_pelon [rj_pelon@hotmail.com]
Sent: Wednesday, September 06, 2006 6:14 PM
To: Stevenson, Todd A.
Subject: FIREWORKS ANPR

my comment in response to the article "Amendment to Fireworks Safety Standards" found here <http://www.cpsc.gov/businfo/frnotices/fr06/E610881.html> are as follows:

i believe one of the main safety rules with consumer fireworks is "Not to light more than one item at a time" and this safety rule is being totally disregarded by many consumers in states where fireworks are legalized' for example' but not limited to "Chain Fusing" multiple items together to ignite more than one item simultaneously, this is a danger to many onlookers as well as those igniting the devices, devices used to perform this act are often described as' but not limited to "Mortar Racks" "Rocket Racks" "Cake Boards" ect..

It is also my understanding that these consumers are often purchasing these fireworks "Wholesale" through many venders such as' but not limited to "Hales" "Millers" ect, often purchasing in Bulk at reduced prices more than can safely be consumed in a normal amount of time, example' but not limited to "4th of July" evening of reasonably' and are often purchased in bulk to Mimic professional displays.

I believe consumer grade fireworks become unsafe when consumers deliberately "Alter" "Ignore" "Disregard" and Tamper with these devices and cause more injuries that may result in permanent bans in the future for generations to come, to remedy this i can only suggest the following changes such as' but not limited to:

1. Not allowing "Wholesale Purchases to Consumers".
2. Restrict the Amount a Consumer Can Legally Have in Possession' at his/her home or private property, to an amount that can safely be used within a given amount of time of normal use following written directions on the items.
3. Restrict the purchase amount to be hauled on public road ways to a certain amount that is of reasonable use.

...the idea of consumer firework devices being made today more safer than in the past is done away with when individuals begin to disregard the safety warnings put on the devices and alter/tamper with these devices to attempt to light/ignite more than one item, which in turn makes the items unsafe' and by doing so teaches others of different age groups to do the same' and disregard safety warnings on these firework devices.

Thank you for reading my voluntary submission in response to the article mentioned and highlight above.

9/7/2006

Fireworks
ANPR
19

~~Stevenson, Todd A.~~

From: Vince Scarpello [scarp9603@yahoo.com]
Sent: Wednesday, September 06, 2006 10:21 PM
To: Stevenson, Todd A.
Subject: FIREWORKS ANPR.

Risk of injury:

The number of injuries is going up because the consumption of fireworks in the United States has risen so dramatically over the past 30 years, from 29 million pounds in 1976 to over 281 million pounds in 2005.

There has been a 90% decrease in fireworks-related injuries per 100,000 pounds:
in 1976 the fireworks-related injury rate was 38.3 per 100,000 pounds, compared to 3.8 per 100,000 pounds in 2005.

Risk of injury associated with fireworks that do not comply with the current fireworks device regulations:

Current regulations limit firecrackers to 50 mg of flash powder, and aerial reports to 130 mg. There are hundreds of injuries from manufacturing and use of 'bootleg' fireworks that exceed this standard. These 'bootleg' fireworks are usually made in someone's garage instead of a factory, so there is usually no quality control or safety testing, and therefore the devices are more dangerous because they are not consistent or reliable.

A solution to this problem would be to **RAISE** the legal limits to 130 mg of powder for firecrackers, and 2 grams for aerial reports. This would replace most 'bootleg' fireworks with safer, more consistent and reliable, devices made in a factory, which would thus be regulated, and subject to quality control and safety testing. With less risk of injury to the consumer.

Sincerely,
Vince Scarpello

Get your email and more, right on the [new Yahoo.com](#)

Fireworks ANPR
20

~~Stevenson, Todd A.~~

From: ATLASIMPORTERS@aol.com
Sent: Wednesday, September 06, 2006 2:51 PM
To: Stevenson, Todd A.
Subject: Re: 'Fireworks ANPR'

Date: Sept. 06, 2006
To: ANPR
From: Hoyt L. Graham

Our fireworks industry is currently required to use CPSC regulations as minimal requirements for 1.4 fireworks permitted into the US market. We also have testing conducted by AFSL that uses the CPSC standards plus more stringent additional criteria's. You currently have a choice to use various testing methods...Black Cat testing program, your own testing program and several other 3rd party companies that also provide testing to CPSC standards.

1. The CPSC is considering making the current AFSL standards and testing program mandatory for all US fireworks importers. (All break charges will only be 25 gr with AFSL vs 35 gr for CPSC, for instance. Sometimes the 5 gr makes the item much safer.)
2. We support AFSL's intent of making fireworks safer for everyone, but believe strongly that the current AFSL standards are too ambiguous to be enforced in a fair manner.
3. The ambiguity and lack of specific guidelines and testing procedures leads to unnecessary uncertainty for fireworks importers. Even if we do our own testing before submitting to AFSL testing, we do not know if a batch will pass, because too much discretion is left in the hands of the individual tester.
4. Leaving so much leeway in the hands of the individual tester is conducive to corruption to the system.
5. The current ambiguity of the standards allows shippers and importers to game the system and get products passed even though the products do not meet AFSL standards.
6. It is a restraint of free trade to force everyone to use ITS as the only approved tester for the AFSL standards. If AFSL believes in its standards and the testability of its standards, then any third party tester should be able to test to those standards.
7. CPSC should prevail as the regulations leader not AFSL.
8. We would be supportive of making AFSL's standards mandatory, only if AFSL does the following:
 - (I) Completes a full review of each of its standards and subjects the standards of outside technical review and human factors analysis.
 - (II) Provides comprehensive standards that includes specific guidelines, acceptable materials, procedures, tolerances, and detailed testing procedures.
 - (III) Allows any recognized third party testing agency to test products in accordance with the AFSL standards.

I was involved with starting up the AFSL and we have definitely seen some benefits from its efforts. However, we should always leave the door open for testing to be performed by more than just one body.

Best Regards,
Atlas Importers, Inc.
Hoyt L. Graham

*Fireworks
Anrp
2/***Stevenson, Todd A.**

From: Skinsjason@aol.com**Sent:** Wednesday, September 06, 2006 11:28 PM**To:** Stevenson, Todd A.**Subject:** fireworks'anrp.

the fireworks that need more checking are items that have wings /or take off and fly such as buzz bombs ect.the amount of injuries is misleading most are from kids doing things with them they shouldn't or there illegal explosive kind news agency's flood the airways with false propaganda to get more anti - firework support what would help is area specifically for fireworks in addition they should be legal nation wide at least safe n sane people love there fireworks and those who dont shouldn't be able to ruin our fun there countless other ways fire starts such as weed wackers ,motorcycles,lawn mowers, cigarettes ,lightning, BBQ'S ,campfires kitchen stoves if safety is the case ban all flammable items or ignition items

9/7/2006

September 7, 2006

Consumer Product Safety Commission
Proposed Rulemaking (ANPR)

To Whom It May Concern:

It has come to my attention that CPSC is considering the adoption of the current AFSL standards and testing procedures.

Even though the intent of the fireworks industry desires safer fireworks, I believe strongly that the current AFSL standards are too ambiguous to be enforced in a fair manner. The lack of specific guidelines and testing procedures leads to unnecessary uncertainty for the fireworks importers.

The directors and leaders of AFSL are involved in the fireworks industry which in turn could cause potential corruption. Currently, the standards allow shippers and importers to trick the system in order to get products passed even though the products do not meet AFSL standards. Thunder Fireworks, Inc has seen this corruption first hand in the Northwest of importers in the State of Washington.

As of today, AFSL has accomplished safer fireworks but there is a restraint of free trade to force everyone to use ITS as the only approved tester for the AFSL standards while there is no other approved third party testing.

We would be supportive of making AFSL standards mandatory, if AFSL completes the following:

Completes a full review of each of its standards and subjects the standards to outside technical review and human factors analysis.

Provide a comprehensive standard that includes specific guidelines, acceptable materials, procedures, tolerances, and detailed testing procedures.

Allows any recognized third party testing agency to test products in accordance with the AFSL standards.

Sincerely,

Debbie Rozzano-Gord
President

Stevenson, Todd A.

From: Debbie Rozzano-Gord [dgord@thunderfireworks.com]
Sent: Friday, September 08, 2006 12:10 PM
To: Stevenson, Todd A.
Subject: Proposed Rule ANPR
Attachments: ANPR Letter vr.doc

Please open the attached letter in regards to the above proposal.

Sincerely,

Debbie Rozzano-Gord
Thunder Fireworks, Inc
253.875.0700 Phone
253.875.0550 Fax

Stevenson, Todd A.

From: The Yeager's [yeagerb@madisontelco.com]
Sent: Thursday, September 07, 2006 11:50 AM
To: Stevenson, Todd A.
Subject: FIREWORKS ANPR.

Greetings,

Subject to the request for comments on Amendment to Fireworks Safety Standards; Advance Notice of Proposed Rulemaking; Request for Comments and information, I would like to make two points/comments:

1) By the CPSC's own special study between the month of June 18th, 2005 and July 18th, 2005:

"an estimated 6,500 fireworks related injuries were treated in U.S. hospital emergency departments \2\ (compared with 6,600 injuries in the 2004 special study and 6,800 injuries during the 2003 special study period)."

This trend actually shows a decrease in the number of injuries year-to-year and thus I question the reason or motive behind this request for comments.

2) The CPSC seems focused on the pyrotechnic devices in lue of the pyrotechnic users. Though I do agree that a consistent and safe standard for fireworks should be adhered to and I compliment the CPSC's diligent work to keep the devices safe for American consumers, in my opinion there should be a concerted effort to create a fireworks licensing program to require the American consumer to take a certified safety coarse and become licensed prior to purchasing pyrotechnic devices. The funds created by the licensing program can be earmarked for CPSC initiatives such as hiring more agents and/or creating a standards and testing bureau. This would allow a duel pronged approach to creating a safer environment for the proper and safe use of fireworks. Device standards and licensed users who have been certified on how to properly use pyrotechnic devices. Education is key to any REAL safety initiative. The APA as well as PGI can certainly work with the CPSC to develop a certified training and safety coarse that could be applied nationally.

9/7/2006



National Fire Protection Association

1 Batterymarch Park, Quincy, MA 02169-7471
Phone: 617-770-3000 • Fax: 617-770-0700 • www.nfpa.org

September 7, 2006

Office of the Secretary
Consumer Product Safety Commission
Room 502
4330 East-West Highway
Bethesda, MD 20814

Re: Fireworks ANPR, Federal Register 71 FR 39249

Dear Mr. Secretary,

The National Fire Protection Association (NFPA) is pleased to have this opportunity to respond to your solicitation for comments to the queries presented in your advance notice of proposed rulemaking (ANPR) published in the Federal Register 71 FR 39249, July 12, 2006. **NFPA agrees with the ANPR that the number of injuries associated with consumer fireworks has been rising for several years. The level is high enough to pose an unreasonable risk to consumers.**

The first item in the ANPR asks for comments on the injury risks associated with consumer fireworks, with emphasis on the evidence presented in the ANPR. Each year NFPA prepares and publishes its annual Fireworks Report that details numbers and trends associated with fireworks-related injuries and deaths and structure and vehicle fires started by fireworks. This report reflects data within the National Fire Incident Reporting System (NFIRS) and National Electronic Injury Surveillance System (NEISS), the latter providing the same data cited in the ANPR. A copy of the full report is attached with these comments.

The 2006 report cites the 2004 CPSC NEISS data which showed there were 9,600 fireworks-related injuries treated in U.S. hospital emergency rooms. As noted in Section C. of this ANPR, the most recent CPSC data further substantiates the trend shown in fireworks-related injuries since 1996, which is up again in 2005 to 10,800 injuries.

As in most years, the majority of victims of fireworks injuries were under age 20.

Another fireworks-related risk not addressed by CPSC in this ANPR, but directly related to establishing the risk associated with fireworks use by consumers is the number of fires caused by fireworks each year. In 2003, an estimated 2,300 reported structure or vehicle fires were started by fireworks. These fires resulted in 5 reported civilian deaths, 60 civilian injuries, and \$58 million in direct property damage.

The risks of fireworks are typically encountered for only a few days each year. On the July 4th Independence Day holiday in a typical year, fireworks are the leading cause of reported fire, accounting for more outdoor fires in the U.S. than all other causes of outdoor fires combined.

Consumer fireworks have the highest estimated risk of fire death relative to exposure time of any product used in or around the home.

NFPA opposes all consumer fireworks use by the public.

NFPA has a long-standing position firmly against the dangerous practice of private (consumer) use of fireworks, which as noted, accounts for nearly all of the injuries from fireworks in most years. Many states still permit untrained citizens to purchase and use fireworks – objects that by their nature and design are intended to produce showers of hot sparks, or reach surface temperatures as high as 1200° F. The thousands of serious injuries and extensive property loss nearly all arise from this dangerous activity.

The increase in injuries cited by CPSC in this ANPR provides additional support and added urgency to our position advocating against the use of consumer fireworks. Since 1910, NFPA has maintained the position that fireworks are too dangerous to be used by consumers. We encourage the public to enjoy their fireworks at public fireworks displays put on by trained professionals.

In support of that position, the International Fire Marshals Association (IFMA) and NFPA prepare and publish the *Model Fireworks Law*, which prohibits possession, sale, or use of any fireworks, with some limited exceptions (copy attached to this submittal). The purpose of the law is to provide requirements in a form that is readily adoptable by both state and local jurisdictions.

The second item in this ANPR seeks input regarding the regulatory alternatives being considered and possible alternatives for addressing the risk. NFPA recommends that CPSC consider adopting the *Model Fireworks Law* as an alternative to the current regulations as a means for addressing the risk associated with fireworks use by the public.

The *Model Fireworks Law* was first adopted by the NFPA in 1938. Its basic philosophy is the restriction of the use of all fireworks, except toy paper or plastic caps, to authorized public displays, and these requirements have been incorporated into the laws of several states. The *Model Fireworks Law*, prepared by IFMA and published by NFPA, reflects NFPA's zero-tolerance policy for consumer use of fireworks. The *Model Fireworks Law* provides an alternative to the current regulatory approach in the wake of the multi-year upward trend in injuries sustained by individuals engaged in the use of legal consumer fireworks.

The *Model Fireworks Law* represents an existing standard that could be used immediately as a proposed regulation. NFPA offers the *Model Fireworks Law* in response to both the third and fourth items on which information and comment is sought.

Many responsible health and safety advocacy groups also oppose public access to fireworks.

In addition to NFPA, a wide range of safety and public health groups that include NFPA, the American Academy of Pediatrics, and the American Burn Association have concluded that the use of fireworks by consumers poses a major public health concern. Nonetheless public access to consumer fireworks has continued to increase. In fact, now only five states ban the use of all fireworks by individual consumers.

Most fireworks injuries are caused by consumer fireworks that are legal under current Federal law.

Five out of six emergency room fireworks injuries involved fireworks permitted by the Federal regulations for use by the consumer. Federal law permits public use of what are now referred to as "consumer fireworks" (formerly known as "common" or Class C fireworks) that comply with specific construction, chemical composition, and labeling regulations.

Some states further restrict the public's access to fireworks (only 5 states currently ban access by the public to all fireworks).

Six states allow only sparklers and/or novelties, while these common devices account for approximately one-third of the total injuries each year. This limitation on device type carries the label "safe and sane," and generally refers to sparklers, fountains, snakes, party poppers, and ground spinners. "Safe and sane" fireworks caused more injuries than illegal fireworks, especially to preschool children. In 2004, sparklers, fountains, and novelties alone accounted for two-fifths of fireworks injuries, including most injuries to pre-school children where the type of fireworks device was specified. In addition to the number of injuries, sparklers can also start very large fires.

The evidence in the ANPR does not support the claim that changes to the testing requirements or compliance rates will reduce the harm caused by consumer fireworks.

This ANPR does not establish a relationship between the compliance rate of tested fireworks and the number of injuries. No correlation has been shown by CPSC between the injury rate and whether the device complies with the testing requirements or practices. The fireworks involved in the injuries cited by CPSC and reported in the NFPA Fireworks Report are not identified or restricted to only devices tested or not tested by the AFSL test program. Furthermore, any examination of sample narratives from NEISS fireworks injuries will show all or nearly all injuries linked to user errors and not to product deficiencies. These narratives provide further evidence that the unacceptably high risk of injury to untrained, unlicensed consumers is inherent in the devices and the speed with which any error can translate into serious harm.

NFPA publishes standards for use by professionals in the distribution of consumer fireworks, but this standard does not imply that the risk of consumer use of those fireworks is manageable or acceptable.

The problem associated with the use of consumer fireworks includes fires in addition to the injuries. In response to requests from fire officials, NFPA has developed a new chapter in one of NFPA's pyrotechnics codes, NFPA 1124, *Code for the Manufacture, Transportation, Storage, and Retail Sales of Fireworks and Pyrotechnic Articles*, which provides minimum requirements for retail facilities that sell consumer fireworks. Our development of these requirements reflects the fact that in most parts of the country, retail sales are allowed but in no way shows a weakening of the resolve on the issue of whether they should be allowed. NFPA believes that fireworks are too inherently dangerous to be used by consumers and that retail sales of fireworks should be banned everywhere.

Consumer fireworks represent an unrecognized and uncontrolled point of vulnerability in homeland security.

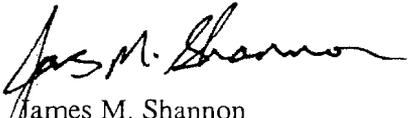
In this period of heightened awareness and protection of public safety in the name of homeland security, it is also important that any explosive commodity be carefully controlled so as not to become the source for a makeshift weapon or incendiary device. At the present time, consumer fireworks, which are classified as an Explosive, Class 1.4 G, usually are provided to the public without any controls on the qualifications of the consumer or their intent. As we have just witnessed with the recent attention to the potential for creating weapons from common substances involving liquids and off-the-shelf materials, it seems prudent that some controls be established for consumer fireworks.

The time is now to protect Americans from the unacceptably high and rising risk of injury from consumer fireworks.

The number of injuries suffered annually by the public from these legal devices and the extensive property loss caused by fires started by these devices demand that some action be taken to restrict and thus reduce the use by the untrained public.

We believe strongly that fireworks are too inherently dangerous to be used by consumers and that retail sales of fireworks should be banned everywhere. Focusing on testing requirements and compliance rates for existing Federal laws has not been an effective approach to reducing the annual toll from consumer fireworks. A new approach is necessary, namely, the adoption of the *Model Fireworks Law*. NFPA maintains its position and will continue to urge people to attend public displays organized and conducted by professionals and to not use fireworks themselves. By banning the use of consumer fireworks, we will prevent these needless deaths, injuries, and fires.

Sincerely,



James M. Shannon
President and CEO

Attachments: NFPA Fireworks Report, 2006
Model Fireworks Law, 2006

MODEL FIREWORKS LAW



2006 Edition

International Fire Marshals Association
1 Batterymarch Park
Quincy, MA 02269-9101
(617)984-7424 Fax: (617)984-7056

Model Fireworks Law 2006

IFMA Executive Board 2005

President Scott Adams, Fire Marshal, Park City Fire District, UT

First Vice President Jon Nisja, Minnesota State Fire Marshals Office, St. Paul, MN

Second Vice President Jimmy Hill, Deputy Chief/Fire Marshal, Los Angeles City Fire Department, Los Angeles, CA

Secretary Charles "Ed" Altizer, State Fire Marshal, Virginia State Fire Marshals Office, Richmond, VA

Immediate Past President John F. Bender, Chief Fire Protection Engineer, Maryland State Fire Marshals Office, Pikesville, MD

Ken Crews, Fire Marshal, Durham Fire Department, Durham, NC

R. T. Leicht, Chief Fire Protection Specialist, Delaware State Fire Marshals Office, Wilmington, DE

David Lind, Fire Marshal, North Shore Fire Department, Bayside, WI

Steven Peavey, Deputy Fire Marshal, Altamonte Springs Building/Fire Safety, Altamonte Springs, FL

Executive Secretary Steven F. Sawyer, NFPA, Quincy, MA

Model Fireworks Law 2006 Edition

This edition of the *Model Fireworks Law* was prepared by the International Fire Marshals Association and published by NFPA. The NFPA Standards Council reviewed this model law at its October 2005 meeting for consistency with the policies of NFPA. This edition of the Model Fireworks Law supersedes all previous editions.

Origin and Development of the *Model Fireworks Law*

The National Fire Protection Association was among the pioneers who sought relief for the public from injuries and fires resulting from indiscriminate use of fireworks. Its efforts progressed from propagandizing during the early years of this century to a suggested municipal ordinance and then to a *Model State Fireworks Law*. The *Model State Fireworks Law* was first adopted by the NFPA in 1938. In 1949, the model law was amended to exclude from its provisions certain toy paper caps and devices for using them.

The *Model State Fireworks Law* found prompt acceptance in many states. Its basic philosophy, which is the restriction of the use of all fireworks, except toy paper or plastic caps, to authorized public displays, is incorporated in the laws of several states.

The *Model State Fireworks Law* was amended in 1972 and 1974. In 1978, its designation was changed from NFPA 494L to NFPA 1 121L. NFPA 1 121L was amended in 1982.

In 1988, the Board of Directors of the National Fire Protection Association transferred custody of the model law from the NFPA Committee on Pyrotechnics to the Fire Marshals Association of North America (now known as the International Fire Marshals Association). The model law was amended in 1991 to be readily adoptable by both state and local jurisdictions. Further changes include a provision that makes possession of fireworks by the general public illegal and violations of the law that result in a fire, personal injury, or death a felony offense.

The 2000 edition updated the law to reflect current fireworks classification, laws, and codes and standards.

The 2006 edition reaffirmed the 2000 edition.

**Model Fireworks Law
2006 Edition**

**BE IT ENACTED BY THE (GOVERNING BODY)
OF THE (JURISDICTION)**

- 1.** No person, firm, or corporation shall possess, offer for sale, expose for sale, sell at retail, or use or explode any fireworks, except as herein provided.
- 2.** Fireworks. Any composition or device for the purpose of producing a visible or an audible effect by combustion, deflagration, or detonation, and which meets the definition of "consumer (Explosive's 1.4G)", "theatrical and novelty (Explosives 1.4S)" or "display (Explosive's 1.3G)" fireworks as set forth in the U.S. Department of Transportation's (DOT) Hazardous Materials Regulation, Title 49, *Code of Federal Regulations (CFR)*, Parts 171-180.

Exception No. 1: Toy caps for use in toy pistols, toy canes, or toy guns, and trick noisemakers manufactured in accordance with DOT regulations, 49 CFR 173.100 (p),¹ and packed and shipped according to said regulations.

Exception No. 2: Model rockets and model rocket motors designed, sold, and used for the purpose of propelling recoverable aero models.

Exception No. 3: Propelling or expelling charges consisting of a mixture of sulfur, charcoal, saltpeter are not considered as designed to produce audible effects.
- 3.** The authority having jurisdiction shall be permitted to adopt reasonable rules and regulations for the licensing of individuals or granting of permits for supervised displays of fireworks by municipalities, fair associations, amusement parks, and other organizations or groups of individuals. Such permits shall be permitted to be granted upon application to the authority having jurisdiction and approval in accordance with the regulations for the display and filing of a bond by the permit application. (*See NFPA 1123, Code for Fireworks Display and NFPA 1126, Standard for the Use of Pyrotechnics before a Proximate Audience.*)
- 4.** Every such display shall be handled by a competent operator, licensed or certified as to competency by the authority having jurisdiction. Every such display shall be of such composition and character and shall be located, discharged, or fired so as, in the opinion of the authority having jurisdiction, after proper site inspection, not to be hazardous to any person or property. After such privileges have been granted, sales, possession, use, and distribution of fireworks for such displays shall be lawful for that purpose only. No permit granted hereunder shall be transferable.
- 5.** Before any permit for a pyrotechnic display shall be issued, the person, firm, or corporation making application therefore shall furnish proof of financial responsibility to satisfy claims for damages to property or personal injuries arising out of any act or omission on the part of such person, firm, or corporation or any agent or employee thereof, in such amount, character, and form as this jurisdiction determines to be necessary for the protection of the public.

6. Nothing in this law shall be construed to prohibit any of the following:
- (a) The sale, at wholesale, of any fireworks for supervised displays by any approved resident manufacturer, wholesaler, dealer, or jobber, in accordance with regulations of the U.S. Bureau of Alcohol, Tobacco, and Firearms (*see Title 27, Code of Federal Regulations, Part 181*) and the U.S. Department of Transportation.
 - (b) The manufacture, transportation, or storage of fireworks at a manufacturing facility. The testing of fireworks under the direction of its manufacturer provided permission for such testing has been obtained from the authority having jurisdiction.
 - (c) The sale, transportation, handling, or use of industrial pyrotechnic devices or fireworks, such as railroad torpedoes, fusees, automotive, aeronautical, and marine flares and smoke signals.
 - (d) The sale and use of blank cartridges for use in a show or theater; for signal or ceremonial purposes; in athletics or sports; or legal power tools.
 - (e) The transportation, handling, or use of any pyrotechnic devices by the armed forces of the United States.
 - (f) The use of pyrotechnics in training by the fire service, law enforcement, or similar government agencies.
 - (g) The use of fireworks for agricultural purposes under the direct supervision of the U.S. Department of the Interior or an equivalent state or local agency. [*See Title 16, Code of Federal Regulations, Part 1500.17(a)(8).*]
7. The authority having jurisdiction shall seize, take, remove, or cause to be removed at the expense of the owner all stocks of fireworks offered or exposed for sale or stored or held in violation of the law.²
8. Any person, firm, or corporation violating the provisions of this law shall be guilty of a misdemeanor.
9. Any person, firm, or corporation violating the provisions of this law, which results in a fire, personal injury, or death, shall be guilty of a felony.
10. Any provisions of this law held to be unconstitutional shall not invalidate the remainder thereof. Any acts, laws, or parts of laws in conflict with any provision of this law are hereby repealed to the extent of the conflict.

¹ The regulations referred to limit the explosive content of each cap to not more than an average of 0.25 grains (16mg). Also, each package containing such caps must be labeled to indicate the maximum explosive content per cap.

² Where no provision in law already exists for the disposition of goods seized in violation of this law, appropriate provisions shall be enacted for the legal disposition of fireworks by the authority having jurisdiction following conviction for such violation.

FIREWORKS

**John R. Hall, Jr.
Fire Analysis and Research Division
National Fire Protection Association**

June 2006



**National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471
www.nfpa.org**

FIREWORKS

**John R. Hall, Jr.
Fire Analysis & Research Division
National Fire Protection Association**

June 2006

Abstract

In 2004, 9,600 fireworks-related injuries were treated in U.S. hospital emergency rooms. The trend in fireworks-related injuries has been mostly up since 1996, with a sharp spike in 2000-2001, primarily due to celebrations around the advent of a new millennium. The highest injury rates were for children aged 5 to 9, only slightly higher than the rates for children aged 10 to 14 and individuals aged 15 to 19.

In 2004, five out of six (85%) emergency room fireworks injuries involved fireworks that Federal regulations permit consumers to use. The risk of fire death relative to exposure shows fireworks as the riskiest consumer product.

Keywords: Fireworks, fire statistics, NFIRS, NEISS

Acknowledgements

The National Fire Protection Association thanks all the fire departments and state fire authorities who participate in the National Fire Incident Reporting System (NFIRS) and the annual NFPA fire experience survey. These firefighters are the original sources of the detailed data that make this analysis possible. Their contributions allow us to estimate the size of the fire problem.

We are also grateful to the U.S. Fire Administration for its work in developing, coordinating, and maintaining NFIRS. And we appreciate the important work done by the U.S. Consumer Product Safety Commission to develop, maintain, and support analysis of the National Electronic Injury Surveillance System (NEISS) and the National Center for Health Statistics and the National Safety Council for maintenance and analysis of the U.S. death certificate data base.

For more information about the National Fire Protection Association, visit www.nfpa.org or call 617-770-3000. To learn more about the One-Stop Data Shop go to www.nfpa.org/osds or call 617-984-7450.

Copies of this report are available from:

National Fire Protection Association
One-Stop Data Shop
1 Batterymarch Park
Quincy, MA 02169-7471
www.nfpa.org
email: osds@nfpa.org
phone: 617-984-7450

Executive Summary

In 2004, 9,600 fireworks-related injuries were treated in U.S. hospital emergency rooms. The trend in fireworks-related injuries has been mostly up since 1996, with a sharp spike in 2000-2001, primarily due to celebrations around the advent of a new millennium. Injuries were higher in 1984-1995 than in recent years but lower in the mid-1970s and earlier.

In 2003, an estimated 2,300 reported structure or vehicle fires started by fireworks. These fires resulted in 5 reported civilian deaths, 60 civilian injuries, and \$58 million in direct property damage.

In 2003, 100 people were killed in a Rhode Island nightclub fire ignited by the indoor use of pyrotechnics in a small, crowded room with wall linings that promoted rapid flame spread. The facility had no sprinkler protection. These deaths were not included in the national estimates.

In 1998-2002, 8 people per year were killed in fires started by fireworks, while 6 people per year were killed directly by fireworks.

As in most years, the majority of victims of fireworks injuries in 2004 were under age 20. The highest injury rates were for children aged 5 to 9, only slightly higher than the rates for children aged 10 to 14 and individuals aged 15 to 19. Males accounted for nearly three-fourths (75%) of fireworks injuries.

In 2004, five out of six (85%) emergency room fireworks injuries involved fireworks that Federal regulations permit consumers to use.

The risk of fire death relative to exposure shows fireworks as the riskiest consumer product.

Table of Contents

	Page
Executive Summary	i
Table of Contents	ii
Size of Fireworks Problem	1
Characteristics of Injuries by Fireworks	8
Risks of Private Fireworks Use	16
Data Sources	18
Appendix A: How National Estimates Are Calculated	19

Size of the Fireworks Problem

In 2004, 9,600 fireworks-related injuries were treated in U.S. hospital emergency rooms.

The trend in fireworks-related injuries has been mostly up since 1996, except for a spike in 2000-2001, primarily due to celebrations around the advent of a new millennium. Injuries were higher in 1984-1995 than in recent years but lower in the mid-1970s and earlier. (See Figure 1.) These statistics are estimates based on the U.S. Consumer Product Safety Commission's National Electronic Injury Surveillance System (NEISS) sample of hospital emergency rooms.

In 2003, an estimated 2,300 reported structure or vehicle fires were ignited by fireworks.

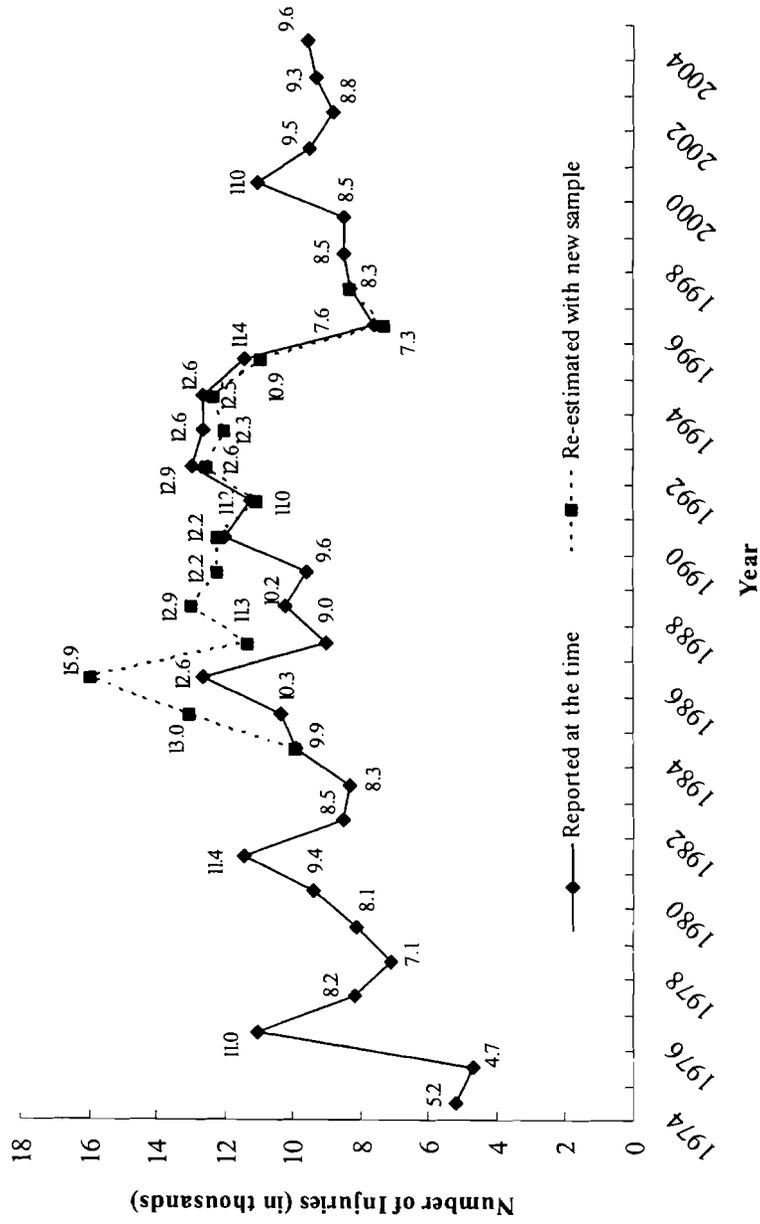
These fires resulted in 5 reported civilian deaths, 60 civilian injuries, and \$58 million in direct property damage, excluding the Station night club fire, which was not included in the sample. (In 2003, 100 people were killed in a Rhode Island nightclub fire ignited by the indoor use of pyrotechnics in a small, crowded room with wall linings that promoted rapid flame spread. The facility had no sprinkler protection.) (See Table 1.)

Each year, most fireworks-related fires begin in outdoor brush or refuse, but most of the loss occurs in fires with structures involved. These fires can start with outdoor use of fireworks, as when a bottle rocket, launched outside, lands on a roof or other location not easily accessed, where it can ignite combustibles before anyone can retrieve it. Because cause information is no longer required for outdoor refuse fires, statistics for outdoor refuse fires by cause cannot be calculated. Therefore, no outdoor-fire statistics are shown here.

In 1998-2002, an estimated 8 people per year were killed in reported fires started by fireworks, while 6 people per year were killed directly by fireworks.

Deaths involving fireworks are identified from two data sources, which may partially or largely overlap, because fireworks can kill directly and also start fires. (See Table 2.) The period of 1998-2002 is the latest 5-year period for which there is official data from death certificates. In both data bases, the death toll varies substantially from year to year, making trend analysis meaningless. As Figure 1 and Table 1 demonstrate, most non-fatal injuries due to fireworks do not occur in the context of a reported fire. For both fatal and non-fatal injuries, it is clear that fireworks can injure directly via a traumatic injury or indirectly via a fire injury from a fire initiated by the fireworks. As for non-fatal injuries, the available statistics also omit injuries that are treated in doctor's offices or are left untreated.

Figure 1.
Fireworks-Related Injuries Reported to
Hospital Emergency Rooms



Source: CPSC's NEISS

**Table 1. Fires and Losses Associated
With Fireworks, 1980-2003
Fires Reported to U.S. Fire Departments**

A. Fires

Year	Home Structures	Other Residential Structures	Nonresidential Structures	Total Structures	Vehicles
1980	2,900	100	1,100	4,000	500
1981	2,800	100	1,300	4,200	500
1982	1,700	100	1,000	2,700	500
1983	1,400	100	800	2,300	500
1984	2,400	100	1,200	3,700	1,000
1985	2,600	100	1,500	4,100	900
1986	2,300	100	1,200	3,600	1,000
1987	1,900	100	1,100	3,100	800
1988	2,300	100	1,400	3,700	900
1989	1,700	100	900	2,700	800
1990	1,600	100	800	2,500	800
1991	1,600	100	900	2,600	900
1992	1,400	0	900	2,300	700
1993	1,300	0	800	2,100	800
1994	1,300	0	900	2,200	700
1995	1,100	0	700	1,900	700
1996	1,100	0	600	1,700	600
1997	1,000	0	700	1,700	500
1998	800	0	500	1,400	500
1999	1,000	0	700	1,600	500
2000	1,000	0	600	1,600	600
2001	1,100	0	600	1,700	700
2002	1,000	0	700	1,700	800
2003	1,000	0	600	1,600	700

Note: These are national estimates of fires reported to U.S. municipal fire departments and so exclude fires reported only to Federal or state agencies or industrial fire brigades. National estimates are projections. Casualty and loss projections can be heavily influenced by the inclusion or exclusion of one unusually serious fire. Fires are rounded to the nearest hundred. Figures reflect a proportional share of fires with heat source unknown.

Source: NFIRS and NFPA survey.

**Table 1. Fires and Losses Associated
With Fireworks, 1980-2003
Fires Reported to U.S. Fire Departments (Continued)**

B. Civilian Deaths

Year	Home Structures	Other Residential Structures	Nonresidential Structures	Total Structures	Vehicles
1980	0	0	0	0	0
1981	0	0	0	0	0
1982	0	0	0	0	0
1983	0	0	0	0	0
1984	3	0	0	3	0
1985	8	0	0	8	3
1986	4	0	0	4	0
1987	4	0	3	7	0
1988	20	0	0	20	0
1989	4	0	0	4	0
1990	3	0	0	3	0
1991	0	0	0	0	2
1992	0	0	0	0	0
1993	0	0	0	0	0
1994	12	0	0	12	0
1995	0	0	0	0	0
1996	9	0	18*	27	0
1997	0	0	0	0	0
1998	0	0	0	0	0
1999	5	0	6	11	0
2000	27	0	0	27	0
2001	0	0	0	0	0
2002	0	0	0	0	0
2003	5	0	0**	5**	0

*Inflated by statistical projection of one Ohio fire with nine deaths.

** Does not include 100 deaths in the Station night club fire.

Note: These are national estimates of fires reported to U.S. municipal fire departments and so exclude fires reported only to Federal or state agencies or industrial fire brigades. National estimates are projections. Casualty and loss projections can be heavily influenced by the inclusion or exclusion of one unusually serious fire. Civilian deaths are expressed to the nearest one. Figures reflect a proportional share of fires with heat source unknown.

Source: NFIRS and NFPA survey.

**Table 1. Fires and Losses Associated
With Fireworks, 1980-2003
Fires Reported to U.S. Fire Departments (Continued)**

C. Civilian Injuries

Year	Home Structures	Other Residential Structures	Nonresidential Structures	Total Structures	Vehicles
1980	30	10	0	30	0
1981	30	0	20	50	0
1982	10	0	20	30	0
1983	50	0	0	50	0
1984	40	0	10	50	10
1985	70	10	10	80	30
1986	50	10	50	100	0
1987	50	10	10	70	0
1988	40	0	20	50	20
1989	50	0	0	50	20
1990	30	10	10	50	0
1991	50	10	10	70	10
1992	40	0	10	50	10
1993	20	0	20	40	0
1994	90	0	10	100	10
1995	50	0	0	50	0
1996	20	0	20	40	0
1997	20	0	10	30	20
1998	10	0	0	10	10
1999	10	0	10	20	10
2000	10	0	10	20	0
2001	30	0	10	40	10
2002	40	10	0	50	10
2003	50	0	0	60	0

Note: These are national estimates of fires reported to U.S. municipal fire departments and so exclude fires reported only to Federal or state agencies or industrial fire brigades. National estimates are projections. Casualty and loss projections can be heavily influenced by the inclusion or exclusion of one unusually serious fire. Civilian injuries are expressed to the nearest ten. Figures reflect a proportional share of fires with heat source unknown.

Source: NFIRS and NFPA survey.

**Table 1. Fires and Losses Associated
With Fireworks, 1980-2003
Fires Reported to U.S. Fire Departments (Continued)**

D. Direct Property Damage (in Millions)

Year	Home Structures	Other Residential Structures	Nonresidential Structures	Total Structures	Total Structures in 2003 Dollars	Vehicles
1980	\$12	\$0	\$3	\$15	\$33	\$0
1981	\$12	\$0	\$6	\$18	\$36	\$0
1982	\$9	\$0	\$2	\$11	\$20	\$0
1983	\$7	\$0	\$5	\$12	\$22	\$0
1984	\$19	\$0	\$6	\$25	\$43	\$2
1985	\$22	\$1	\$7	\$30	\$51	\$1
1986	\$24	\$0	\$29	\$53	\$89	\$2
1987	\$17	\$0	\$7	\$24	\$39	\$1
1988	\$22	\$0	\$14	\$37	\$57	\$1
1989	\$56	\$0	\$3	\$59	\$88	\$1
1990	\$22	\$1	\$4	\$26	\$37	\$2
1991	\$17	\$0	\$5	\$21	\$29	\$2
1992	\$13	\$0	\$16	\$29	\$39	\$1
1993	\$12	\$0	\$6	\$19	\$24	\$1
1994	\$10	\$0	\$8	\$18	\$22	\$2
1995	\$21	\$1	\$9	\$30	\$36	\$2
1996	\$12	\$0	\$7	\$19	\$23	\$1
1997	\$13	\$0	\$8	\$21	\$24	\$1
1998	\$9	\$0	\$3	\$12	\$14	\$1
1999	\$12	\$1	\$3	\$16	\$18	\$1
2000	\$13	\$0	\$12	\$25	\$26	\$2
2001	\$19	\$1	\$11	\$31	\$32	\$3
2002	\$18	\$0	\$8	\$26	\$27	\$2
2003	\$42	\$2	\$11	\$55	\$55	\$3

Note: These are national estimates of fires reported to U.S. municipal fire departments and so exclude fires reported only to Federal or state agencies or industrial fire brigades. National estimates are projections. Casualty and loss projections can be heavily influenced by the inclusion or exclusion of one unusually serious fire. Direct property damage is rounded to the nearest million dollars. Figures reflect a proportional share of fires with heat source unknown. Inflation adjustment to 2003 dollars is done using the consumer price index.

Source: NFIRS and NFPA survey.

**Table 2. Deaths Associated With
Fireworks Incidents, 1980-2004**

Year	Estimated Civilian Deaths in Structure or Vehicle Fires Reported to U.S. Fire Departments	Recorded on U.S. Death Certificates
1980	0	10
1981	0	4
1982	0	5
1983	0	13
1984	3	7
1985	11	11
1986	4	8
1987	7	5
1988	20	4
1989	4	5
1990	3	5
1991	2	4
1992	0	2
1993	0	10
1994	12	4
1995	0	2
1996	27*	9
1997	0	8
1998	0	9
1999	11	7
2000	27	5
2001	0	6
2002	0	5
2003	5**	4***
2004	****	8***

* Inflated by statistical projection of one Ohio fire with nine deaths.

** Does not include 100 deaths in the Station night club fire.

*** Death certificate figures for 2003 and 2004 are preliminary based on reports to the U.S. Consumer Product Safety Commission and exclude fireworks-caused fires, most notably the Station fire in 2003.

**** Not yet available.

Note: In any year, the figures in these two columns may partially overlap if fireworks that directly kill also ignite a reported fire.

Sources: For death certificate tallies, *Injury Facts*, Chicago (1985-1992) and Itasca, IL (1993-2006): National Safety Council, 1985-2006. For national estimates of fire deaths, NFIRS and NFPA survey.

Characteristics of Fireworks Injuries

More than two-fifths (42%) of 2004 emergency room fireworks injuries were to the head, and more than half (53%) were to extremities.

Injuries to extremities were primarily to hand or finger (33% of total injuries). (See Figure 2.) One-fifth (21%) of injuries were to the eye, and one-fifth (21%) were to other parts of the head or face. The detailed U.S. statistics are based on injuries reported to hospital emergency rooms for CPSC's NEISS system during the month around July 4. A 1998 study of all Canadian fireworks injuries ever reported to the Canadian Hospitals Injury Reporting and Prevention Program found a large share of injuries occurred while the victim was holding the fireworks device, and the U.S. injury patterns are at least consistent with that pattern. (See Health Canada, "Injuries associated with ... fireworks," at <http://www.hc-sc.gc.ca>.)

More than three-fifths (62%) of 2004 fireworks injuries were burns.

Contusions and lacerations were second (20%). (See Figure 3.) Contusions and lacerations were roughly equal in number to burns when the injury was to any part of the head or face, including the eye.

Highest risks of fireworks injury are to school-age children.

As in most years, the majority of victims of fireworks injuries in 2004 were under age 20. (See Figure 4.) The highest injury rates were for children aged 5 to 9, only slightly higher than the rates for children aged 10 to 14 and individuals aged 15 to 19. The rates for children aged 0 to 4 and for young adults aged 20 to 24 were 50% higher than the average rate for all ages. (See Figure 5.) Males accounted for three-fourths (75%) of fireworks injuries.

Similar patterns in fireworks injuries were found in the Health Canada study cited above. The highest rates in that study were for the 10 to 14 and 15 to 19 age groups, followed closely by the 5 to 9 age groups. A Greek study (K. Vassilia, P. Eleni, and T. Dimitrios, "Fireworks-related childhood injuries in Greece: A national problem," *Burns*, Vol. 30, No. 2, 2004, pp. 151-153) found that young female victims were usually bystanders, while young male victims were usually involved in igniting fireworks.

In 2004, five out of six (85%) emergency room fireworks injuries involved fireworks that Federal regulations permit consumers to use.

The other 15% were large/illegal firecrackers, homemade or altered devices, and public display fireworks. Federal law permits public use of what are now referred to as "consumer fireworks" (formerly known as "common" or Class C fireworks), which are defined as "any small fireworks device designed primarily to produce visible effects by combustion" that comply with specific construction, chemical composition, and labeling regulations. These include a 50-mg maximum limit of explosive composition for ground devices and a 130-mg maximum limit of explosive composition for aerial devices. (See Figure 6.)

Some states further restrict the public's access to fireworks. The following five states have banned access by the public to all fireworks – Delaware, Massachusetts, New

Jersey, New York, and Rhode Island. Six states allow only sparklers and/or novelties, but these devices accounted for more than one-third of 2004 fireworks injuries.

“Safe and sane” fireworks caused more injuries than illegal fireworks, especially to preschool children.

The term “safe and sane” fireworks is used to refer to devices such as sparklers, fountains, snakes, party poppers, and ground spinners. Six states permit sale of sparklers and some other devices of comparable strength – Arizona, Illinois, Iowa, Maine, Ohio, and Vermont. As a promotional technique, the fireworks allowed under rules of this type have been labeled “safe and sane” fireworks by their advocates. Laws based on this approach allow considerable private use of fireworks, but exclude any explosive type devices that lift off the ground that are allowed under Federal law.

In 2004, sparklers, fountains, and novelties alone accounted for two-fifths (40%) of emergency-room fireworks injuries, including most injuries to pre-school children (ages 4 and under) where the type of fireworks device was specified. Here is a sample of NEISS incident narratives of pre-school child injuries from sparklers in 2004:

A 3-year-old boy was running with a burning sparkler, which somehow fell under the back of his shirt and burned his lower back.

A 3-year-old boy burned his fingers on a lighted sparkler.

A 3-year-old boy stepped on a hot sparkler and suffered a second degree burn to his right foot.

A 3-year-old girl playing with sparklers sustained a second degree burn when a burning sprinkler contacted the left side of her head.

A 3-year-old girl sustained a second degree burn when a burning sprinkler was dropped onto a toe on her right foot.

A 2-year-old girl sustained a second degree sparkler burn to her left shoulder and neck.

A 4-year-old boy stepped on a burning sparkler, sustaining a second-degree burn to his foot, which later developed a secondary infection.

And sparklers can also start very large fires, e.g.:

A fire started in the bedroom of a first-floor apartment when a lit sparkler ignited a combustible bed skirt. The apartment’s resident had placed the sparkler in a cupcake for her 10-year-old daughter’s birthday. After sparks ignited the bed skirt, flames spread to bedding and other combustibles. The occupants detected the fire before smoke alarms could operate and escaped.

Flames heavily damaged the bedroom of origin and other rooms in the apartment, while the structural steel elements sustained significant heat damage. Smoke extensively damaged the first floor and spread to the upper floors through a construction deficiency around a vertical ventilation shaft. Water damaged the lower floors. Damages were estimated at \$1.6 million.*

“Safe and sane” fireworks are neither. When things go wrong with fireworks, they typically go very wrong very fast, far faster than any fire protection provisions can reliably respond. And fireworks are a classic attractive nuisance for children. If children are present to watch, they will be tempted to touch. Children can move too fast and be badly hurt too quickly if they are close to fireworks, as they inevitably are at home fireworks displays.

State laws to restrict fireworks use by the public are very difficult to enforce.

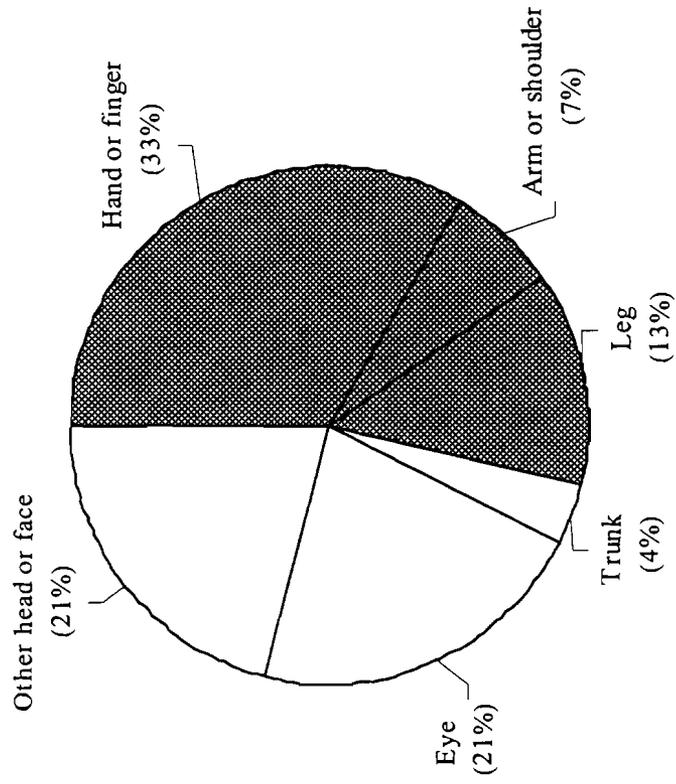
The other 39 states and the District of Columbia impose no restrictions beyond the Federal requirements. This patchwork approach meant that people determined to acquire fireworks though living in a state that prohibits them can often cross a state border to buy fireworks, thereby violating a state law that is difficult to enforce. Every year, for example, people from Massachusetts drive into neighboring New Hampshire – a trip of at most a couple of hours – and buy fireworks from rows of retail stands set up near the border for the convenience of the scofflaw trade.

It is possible that limited laws, such as the current Federal law, are actually more difficult to enforce than a broader law would be, because the existence of some legal fireworks for the public encourages a climate of acceptance and creates a distribution network, both of which make it easier for amateurs to obtain illegal fireworks.

Since at least 1910, NFPA has crusaded to stop the dangerous private use of fireworks, which as noted accounts for nearly all of the injuries from fireworks in most years. Many states still permit untrained citizens to purchase and use fireworks – objects designed to explode, throw off showers of hot sparks, or reach surface temperatures as high as 1,200°F. The thousands of serious injuries and extensive property loss nearly all arise from this misguided activity, rather than the only acceptably safe way to enjoy fireworks, which is in public fireworks displays conducted in accordance with NFPA 1123, *Code for Fireworks Display*. Anything else is a violation of IFMA's (International Fire Marshals Association's) *Model Fireworks Law*, which reflects NFPA's zero-tolerance policy for consumer use of fireworks.

*Adapted from Kenneth J. Tremblay, “Firewatch,” *NFPA Journal*, March/April 1997, p. 21.

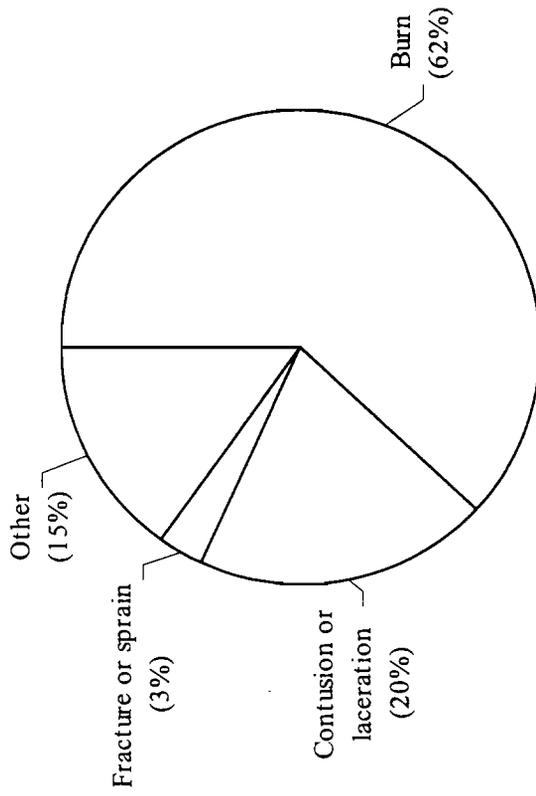
**Figure 2.
2004 Fireworks-Related Injuries*
by Part of Body Injured**



Source: CPSC's NEISS

*Based on injuries during the month around July 4.

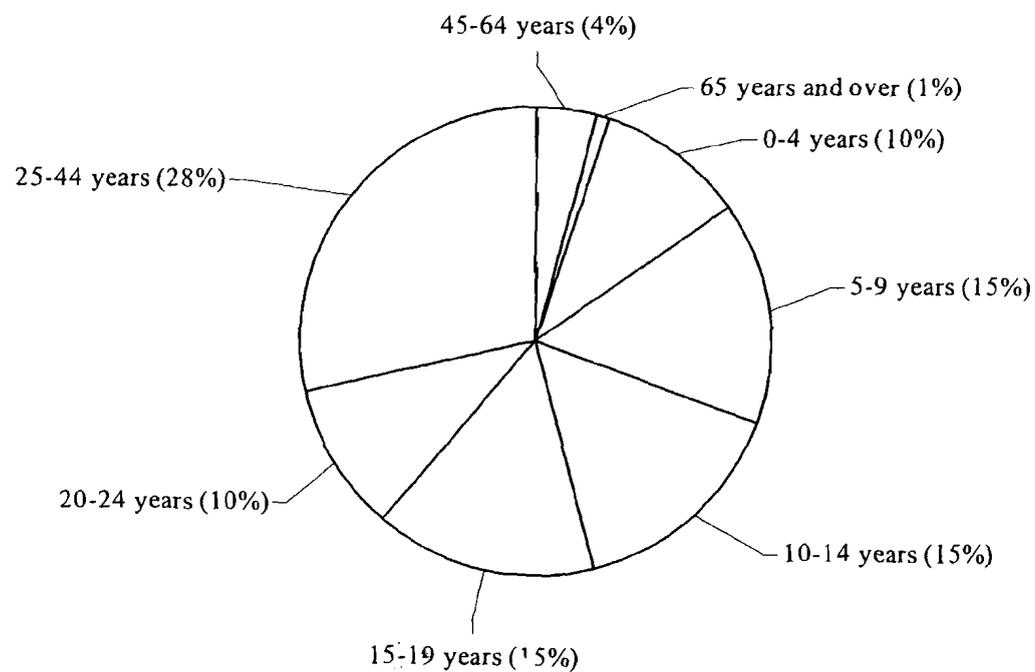
Figure 3.
2004 Fireworks-Related Injuries*
by Type of Injury



Source: CPSC's NEISS

*Based on injuries during the month around July 4.

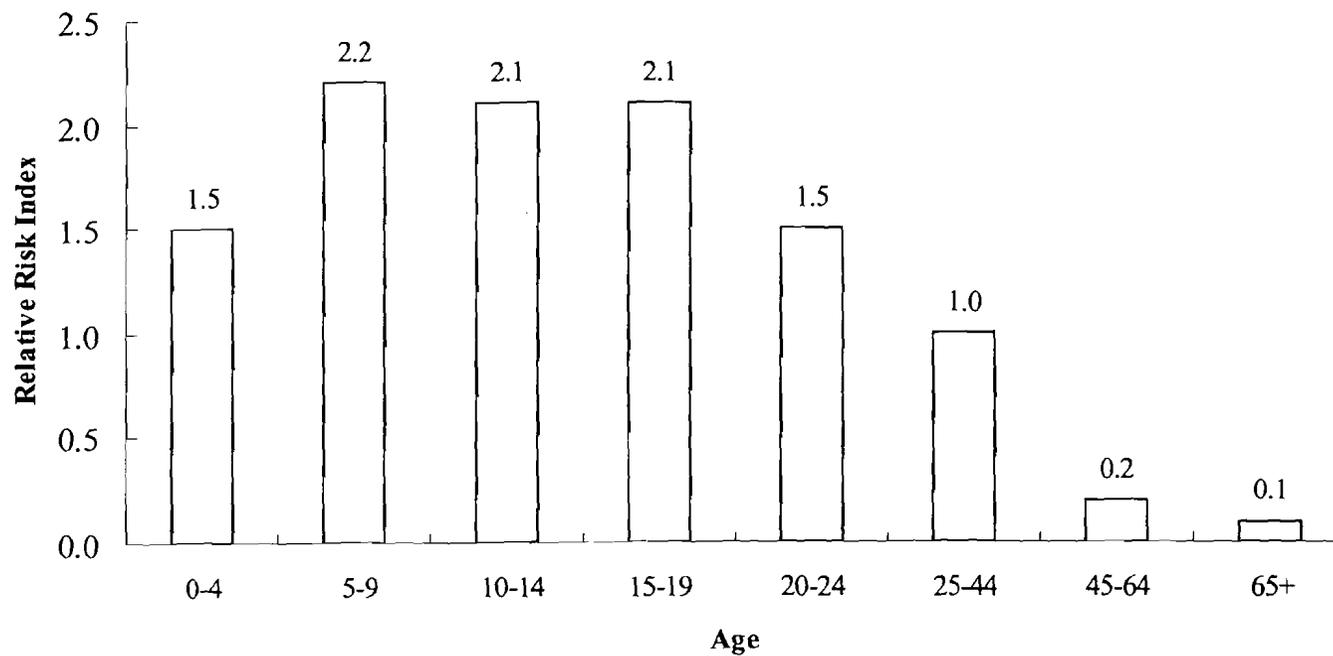
Figure 4.
2004 Fireworks-Related Injuries*
by Age of Victim



Source: CPSC's NEISS

*Based on injuries during the month around July 4.

Figure 5.
Risk of 2004 Fireworks-Related Injury*
by Age of Victim

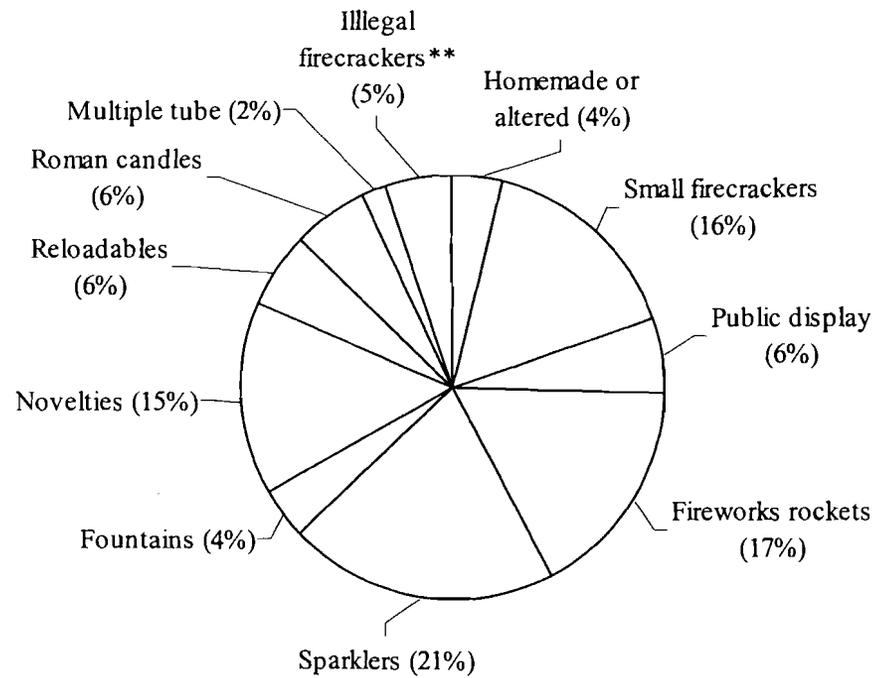


*Based on injuries during the month around July 4.

Source: CPSC's NEISS

Note: Relative risk index is injuries per million population for the age group divided by injuries per million population for all ages combined.

Figure 6.
2004 Fireworks-Related Injuries* by Type of Fireworks
(Unknowns Allocated)



Source: CPSC's NEISS

*Based on injuries during the month around July 4.
 **Illegal under Federal law.

Risks of Private Fireworks Use

The risks of fireworks are typically encountered for only a few days each year.

On the July 4 Independence Day holiday in a typical year, fireworks are the leading cause of reported fire, accounting for more outdoor fires in the U.S. than all other causes of outdoor fires combined. (This characterization, based on patterns in late 1990s data, has not been reconfirmed with more current data, because NFIRS Version 5.0 does not require cause reporting for outdoor trash fires.) But because most exposure to the risk of fireworks is limited to a few days around July 4, the actual toll of loss is relatively small, and so the risk may not impress itself upon the average person. Some areas may also see heightened fireworks use around New Year's Day, Chinese New Year, or Mardi Gras.

The same is true in some other countries. In the United Kingdom, a tradition exists for fireworks use on November 5, sometimes called "Bonfire Night," a date very near Halloween (October 31). In Canada, fireworks injuries peak on Halloween, Victoria Day (a Monday in late May), and Canada Day (July 1). Many countries see heightened fireworks use around Chinese New Year (late January or early February). Greeks see a jump in usage and injuries on Greek Orthodox Easter. But relatively few countries (China and Mexico may be among the exceptions) see substantial fireworks use year-round.

The risk of fire death relative to exposure shows fireworks as the most risky consumer product.

Risk estimates relative to exposure time are very rough, but even an estimate designed to give fireworks the benefit of the doubt supports the above conclusion.

Take, for example, cigarettes, the product associated with the largest number of fire deaths per year and the only other product likely to have the highest risk of fire deaths relative to exposure time. Recent figures indicate 425-435 billion cigarettes are smoked per year by a smoking population that constitutes about one-fourth of the adult population, who themselves constitute three-fourths of the total population of roughly 280 million people. This translates into roughly 28 cigarettes per smoker per day and 52.5 million smokers. Assuming it takes at least 5 minutes on average to smoke a cigarette, this translates into just over 2 hours per day of exposure to the fire risks associated with a lit cigarette. The latest death toll from fires started by lit tobacco products, nearly all of which are cigarettes, is in the range of 700 to 900. The risk is therefore estimated as $(700-900 \text{ deaths}) / (2 \text{ hours/day} \times 365 \text{ days}) / (52.5 \text{ million smokers}) = 1.8-2.3 \text{ deaths per hundred million person-hours of exposure.}$

Now, consider fireworks. Recent figures indicate 120-130 million pounds of fireworks are used per year. Fireworks are typically used by households, so we assume that, on average, 2.6 people (the average size of a household) are exposed in any use of fireworks. A pound of fireworks will translate into a varying number of devices, depending on the type of device, but assume that on average a pound of fireworks burns for no more than 20 minutes. (The longer the time, the longer the estimated exposure time, and so the lower the estimated risk.) In 1998-2002, fires started by fireworks averaged 7.8 deaths a

year. (See Table 2.) The risk is therefore estimated as $(7.8 \text{ deaths}) / (2.6 \text{ people/exposure} \times 1/3 \text{ exposure-hour/pound} \times 130 \text{ million pounds}) = 6.9 \text{ deaths per hundred million person-hours of exposure.}$

The cigarette calculation errs on the side of overestimating the risk, because 5 minutes is a low-end estimate of smoking time per cigarette, particularly if one factors in the long smolder time of imperfectly extinguished cigarettes, which are a common scenario for fire. The fireworks calculation errs on the side of underestimating the risk, because 20 minutes is a high-end estimate of the average burn time for a pound of fireworks, possibly high by a factor of two to four. Yet, even with these assumptions, the risk while fireworks are burning that a fire death will result is three to four times the corresponding risk when cigarettes are burning.

In recent years, the industry has asserted a risk-type argument based on the fact that fireworks consumption (in pounds) roughly doubled in the early to mid-1990s while hospital emergency-room injuries due to fireworks were declining. The above calculation shows the fallacy of this reasoning, which focuses on whether the risk is increasing or decreasing and not on how high the risk actually is.

The risks associated with fireworks are not limited to displays, public or private.

Risks also exist wherever fireworks are manufactured, transported or stored. Most but not all such losses in recent decades have occurred in other countries, where fireworks activity is not controlled as tightly – or kept as separate from highly populated areas – as it tends to be in the U.S. The following incident descriptions are taken from NFPA's Fire Incident Data Organization (FIDO) database:

- In 1983, two separate massive fireworks explosion incidents in Mexico killed 34 and 21 people, respectively, the latter reportedly coming when a fireworks display flare ignited fireworks stored in the back room of a church. Fireworks displays are a traditional part of a religious festival called the Feast of the Holy Cross.
- In 1996, nine people died in an Ohio fire when a customer ignited a fireworks device in the sales display area of a fireworks retail facility, and the resulting fire quickly spread to the entire store inventory. (See *NFPA Journal*, September/October 1997, p. 52.)
- In 2000, 18-20 people were killed in the Netherlands when a residential fire spread to a fireworks warehouse located next to the neighborhood.
- In 2002, three separate incidents in India involved explosions at fireworks storage facilities, killing 14, 13, and 12 people, respectively. The first incident involved storage at an ordinary home, while the last incident involved storage in a straw-thatched warehouse where a short circuit ignited a fire that then led to an explosion when fire spread to fireworks.
- In 2006, 36 people were killed in Linqi, China, when fireworks ignited an explosion at a fireworks warehouse, resulting in a pressure wave that flattened a nearby temple, leading to the casualties.

Data Sources

Changes in NFIRS pose opportunities and challenges in describing and tracking the problem.

The statistics in this report are national estimates derived from the US Fire Administration's (USFA's) National Fire Incident Reporting System (NFIRS) in combination with NFPA's annual fire department survey. In Version 4.1, "fireworks" were usually understood to include two categories under form of heat of ignition – code 63 (fireworks) and code 64 (paper cap or party popper). In Version 5.0, these two groups of devices are combined into one – Heat Source code 54 (fireworks). Detailed information about NFIRS, including Version 4.1 and 5.0 codes and conversion tables, can be obtained from <http://www.usfa.fema.gov/>.

Data on injuries at hospital emergency rooms come from NEISS.

All fireworks-related injury statistics from hospital emergency rooms come from reports by the U.S. Consumer Product Safety Commission (CPSC) and private communications from Linda Smith and Michael Greene of the CPSC. Linda Smith also provided the rules for setting the range of fireworks injury estimates during the period from 1985 to 1989, reflecting the change in the sample, and in 1991 to 1996, reflecting the latest change in the sample. Reports referenced include Michael A. Greene and James Joholske, *2004 and 2003 Fireworks Annual Report*; Michael A. Greene and Patrick M. Race, *1999 Fireworks Annual Report*; Michael A. Greene, *1998 Fireworks-Related Injuries*; Ron Monticone and Linda Smith, *1997 Fireworks-Related Injuries*; Sheila L. Kelly, *Fireworks Injuries, 1994*; Dr. Terry L. Kissinger, *Fireworks Injuries - Results of a 1992 NEISS Study*; Linda Smith and Sheila Kelly, *Fireworks Injuries, 1990*; Deborah Kale and Beatrice Harwood, *Fireworks Injuries - 1981*; and the May/June 1974 issue of *NEISS News*. All were published by CPSC.

Appendix A: How National Estimate Fire Statistics Are Calculated

Estimates are made using the National Fire Incident Reporting System (NFIRS) of the Federal Emergency Management Agency's (FEMA's) United States Fire Administration (USFA), supplemented by the annual stratified random-sample survey of fire experience conducted by the National Fire Protection Association (NFPA), which is used for calibration.

Data Bases Used

NFIRS provides annual computerized data bases of fire incidents, with data classified according to a standard format based on the NFPA 901 Standard. Roughly three-fourths of all states have NFIRS coordinators, who receive fire incident data from participating fire departments and combine the data into a state data base. These data are then transmitted to FEMA/USFA. Participation by the states, and by local fire departments within participating states, is voluntary. NFIRS captures roughly one-third to one-half of all U.S. fires each year. More than one-third of all U.S. fire departments are listed as participants in NFIRS, although not all of these departments provide data every year.

The strength of NFIRS is that it provides the most detailed incident information of any national data base not limited to large fires. NFIRS is the only data base capable of addressing national patterns for fires of all sizes by specific property use and specific fire cause. (The NFPA survey separates fewer than 20 of the hundreds of property use categories defined by NFPA 901 and solicits no cause-related information except for incendiary and suspicious fires.) NFIRS also captures information on the avenues and extent of flame spread and smoke spread and on the performance of detectors and sprinklers.

The NFPA survey is based on a stratified random sample of roughly 3,000 U.S. fire departments (or just over one of every ten fire departments in the country). The survey includes the following information: (1) the total number of fire incidents, civilian deaths, and civilian injuries, and the total estimated property damage (in dollars), for each of the major property use classes defined by the NFPA 901 Standard; (2) the number of on-duty firefighter injuries, by type of duty and nature of illness; and (3) information on the type of community protected (e.g., county versus township versus city) and the size of the population protected, which is used in the statistical formula for projecting national totals from sample results.

The NFPA survey begins with the NFPA Fire Service Inventory, a computerized file of about 30,000 U.S. fire departments, which is the most complete and thoroughly validated such listing in existence. The survey is stratified by size of population protected to reduce the uncertainty of the final estimate. Small rural communities protect fewer people per department and are less likely to respond to the survey, so a large number must be surveyed to obtain an adequate sample of those departments. (NFPA also makes follow-up calls to a sample of the smaller fire departments that do not respond, to confirm that those that did respond are truly representative of fire departments their size.) On the other hand, large city departments are so few in number and protect such a large proportion of the total U.S. population that it makes sense to survey all of them. Most respond, resulting in excellent precision for their part of the final estimate.

Projecting NFIRS to National Estimates

To project NFIRS results to national estimates, one needs at least an estimate of the NFIRS fires as a fraction of the total so that the fraction can be inverted and used as a multiplier or scaling ratio to generate national estimates from NFIRS data. But NFIRS is a sample from a universe whose size cannot be inferred from NFIRS alone. Also, participation rates in NFIRS are not necessarily uniform across regions and sizes of community, both of which are factors correlated with frequency and severity of fires. This means NFIRS may be susceptible to systematic biases. No one at present can quantify the size of these deviations from the ideal, representative sample, so no one can say with confidence that they are or are not serious problems. But there is enough reason for concern so that a second data base - the NFPA survey - is needed to project NFIRS to national estimates and to project different parts of NFIRS separately. This multiple calibration approach makes use of the annual NFPA survey where its statistical design advantages are strongest.

There are separate projection formulas for four major property classes (residential structures, non-residential structures, vehicles, and other) and for each measure of fire severity (fire incidents, civilian deaths, and civilian injuries, and direct property damage).

For example, the scaling ratio for 2002 civilian deaths in residential structures is equal to the total number of 2002 civilian deaths in residential structure fires reported to fire departments, according to the NFPA survey (2,695), divided by the total number of 2002 civilian deaths in residential structure fires reported to NFIRS (1,029). Therefore, the scaling ratio is $2,695/1,029 = 2.62$.

The scaling ratios for civilian deaths and injuries and direct property damage are often significantly different from those for fire incidents. Except for fire service injuries, average severity per fire is generally higher for NFIRS than for the NFPA survey. Use of different scaling ratios for each measure of severity is equivalent to assuming that these differences are due either to NFIRS under-reporting of small fires, resulting in a higher-than-actual loss-per-fire ratio, or possible biases in the NFIRS sample representation by region or size of community, resulting in severity-per-fire ratios characteristic only of the oversampled regions or community sizes.

Note that this approach also means that the NFPA survey results for detailed property-use classes (e.g., fires in storage structures) may not match the national estimates of the same value.

Calculating National Estimates of Particular Types of Fires

Most analyses of interest involve the calculation of the estimated number of fires not only within a particular occupancy but also of a particular type. The types that are mostly frequently of interest are those defined by some ignition-cause characteristic. The six cause-related characteristics most commonly used to describe fires are: form of the heat that caused the ignition, equipment involved in ignition, form or type of material first ignited, the ignition factor that brought heat source and ignited material together, and area of origin. Other characteristics of interest are victim characteristics, such as ages of persons killed or injured in fire.

For any characteristic of interest in NFIRS, some reported fires have that characteristic unknown or not reported. If the unknowns are not taken into account, then the propensity to report or not report a characteristic may influence the results far more than the actual patterns on that characteristic. For example, suppose the number of fires remained the same for several consecutive years, but the percentage of fires with cause unreported steadily declined over those years. If the unknown-cause fires were ignored, it would appear as if fires due to every specific cause increased over time while total fires remained unchanged. This, of course, does not make sense.

Consequently, most national estimates analyses allocate unknowns. This is done by using scaling ratios defined by NFPA survey estimates of totals divided by only those NFIRS fires for which the dimension in question was known and reported. This approach is equivalent to assuming that the fires with unreported characteristics, if known, would show the same proportions as the fires with known characteristics. For example, it assumes that the fires with unknown ignition factor contain the same relative shares of child-playing fires, incendiary-cause fires, short circuit fires, and so forth, as are found in the fires where ignition factor was reported.

Rounding Errors

The possibility of rounding errors exists in all our calculations. One of the notes on each table indicates the extent of rounding for that table, e.g., deaths rounded to the nearest one, fires rounded to the nearest hundred, property damage rounded to the nearest hundred thousand dollars. In rounding to the nearest one, fractional values of 0.5 or more are rounded up and fractional values less than 0.5 are rounded down. For example, 2.5 would round to 3, and 3.4 would round to 3. In rounding to the nearest one, a stated estimate of 1 could be any number from 0.5 to 1.49, a roughly threefold range.

The impact of rounding is greatest when the stated number is small relative to the degree of rounding. As noted, rounding to the nearest one means that stated values of 1 may vary by a factor of three. Similarly, the cumulative impact of rounding error - the potential gap between the estimated total and the sum of the estimated values as rounded - is greatest when there are a large number of values and the total is small relative to the extent of rounding.

Suppose a table presented 5-year averages of estimated deaths by item first ignited, all rounded to the nearest one. Suppose there were a total of 30 deaths in the 5 years, so the total average would be $30/5 = 6$.

In case 1, suppose 10 of the possible items first ignited each accounted for 3 deaths in 5 years. Then there would be 10 entries of $3/5 = 0.6$, rounded to 1, and the sum would be 10, compared to the true total of 6.

In case 2, suppose 15 of the possible items first ignited each accounted for 2 deaths in 5 years. Then there would be 15 entries of $2/5 = 0.4$, rounded to 0, and the sum would be 0, compared to the true total of 6.

Here is another example: Suppose there were an estimate of 7 deaths total in 1992 through 1996. The 5-year average would be 1.4, which would round to 1, the number we would show as the total. Each death would represent a 5-year average of 0.2.

If those 7 deaths split as 4 deaths in one category (e.g., smoking) and 3 deaths in a second category (e.g., heating), then we would show $4 \times 0.2 = 0.8$ deaths per year for smoking and $3 \times 0.2 = 0.6$ deaths per year for heating. Both would round to 1, there would be two entries of 1, and the sum would be 2, higher than the actual rounded total.

If those 7 deaths split as 1 death in each of 7 categories (quite possible since there are 12 major cause categories), then we would show 0.2 in each category, always rounding to 0, and the sum would be 0, lower than the actual rounded total. The more categories there are, the farther apart the sum and total can -- and often do -- get.

Note that percentages are calculated from unrounded values, and so it is quite possible to have a percentage entry of up to 100%, even if the rounded number entry is zero.



Black Cat Marketing USA
5200 W. 94th Terrace
Suite 112
Prairie Village, KS 66207
Tel: (913) 649-0537 Fax: (913) 381-5470
www.blackcatfireworks.com

*Fireworks
ANPR
25*

September 8, 2006

Mr. Todd Stevenson
Office of the Secretary
U.S. Consumer Product Safety Commission
4330 East-West Highway
Room 502
Bethesda, MD 20814

Re: COMMENTS ON FIREWORKS ANPR BY BLACK CAT FIREWORKS

Dear Mr. Stevenson:

Black Cat Marketing USA and Shiu Fung Fireworks Co. Ltd. (hereafter "Black Cat Fireworks" or "Black Cat") submit the following comments on the ANPR for Amendment to Fireworks Safety Standards. We welcome the opportunity to submit comments on this important issue.

We are the largest distributors of consumer fireworks in the world and we agree with mandatory testing of all consumer fireworks. We currently have a substantial testing program in place at all factories that manufacture Black Cat® fireworks. This program is monitored and audited by BureauVeritas and we test to the standards required by our customers. The standards that we test to include CPSC, AFSL, BAM (the German Standard for fireworks) and the European Standard. We would assume that this testing program would meet the proposal for mandatory testing set forth in the ANPR. We would welcome CPSC review of our testing program

With regards to the U.S. market, we see an overall decrease in the frequency of injuries. Based on statistics published on the American Pyrotechnics Association website, we would note that consumer firework consumption rose more than 54% (156.2 million pounds in 2000 vs. 236.2 million pounds in 2004) while the CPSC statistics on injuries actually decreased (11,000 injuries in 2000 vs. 9,600 injuries in 2004) by over 12% for the same period of time. We believe that this improved safety record reflects i) an increased concern for quality and safety by the Chinese government and major firework exporters and importers, ii) the increased popularity of multi-shot products (which are more expensive and less prone to mischief and abuse), and lastly iii) the focus on safety inspired by the AFSL.

"Black Cat is the Best you can get."

We commend the AFSL for its focus on safety and we acknowledge that the AFSL standards are the only voluntary written standards at this time for the U.S. market. Nonetheless, we believe these standards are flawed and we have serious concerns that should be addressed before the AFSL standards can be considered for mandatory use.

1. AFSL does not have a true certification program or even a certification mark; it is merely a random testing program. Since the AFSL mark is simply a service mark to protect the design of the mark and not a certification, there is no guaranty of quality of the product.
2. We have been testing to the AFSL standards but we believe that many, if not most, of the standards have no scientific basis, have not been reviewed by experts and have not had any human factors analysis. To our knowledge, the only human factors study that has ever been done is the fuse burn time study, and this was a study that was required by CPSC. Following are just a few examples of AFSL standard-setting practice that raise our level of concern:
 - a. We attended a CPSC / AFSL meeting in Bethesda in 2006 where John Rogers, Executive Director of AFSL, stated that they got a portion of their standards committee together over a weekend and drafted a standard for bamboo sparklers. This is a particularly egregious example of total lack of regard for due diligence exhibited by AFSL in its standard-setting practice. Because of this weekend effort without any industry feedback, expert review or human factors analysis, the resulting standard for bamboo sparklers is ambiguous and offers no concrete guidelines. The standard for bamboo stick sparklers 2-3.1 states "Wooden or bamboo sticks must be treated or coated in such a manner that they will not continue to burn as a result of operation." With this type of language in the standard, testers in the field have tremendous leeway in determining if a product passes or fails the standard.
 - b. The section on Specialty Items is very ambiguous in the description of the devices included in this section and is not being enforced uniformly throughout the industry. For example standard 1-2.9 states a fireworks item that resembles in physical form articles commonly recognized as appealing to or attended for use by children. This includes, but is not limited to, devices that resemble cartoon characters, toys, vehicles, boats and animals and that are designated to produce limits visible, audible or motion effects. There are products on the market such as B-2 Bomber (a plane), M-45 Tank, Mega Cycle, Friendship Pagoda, Globe Fireworks, Grand Prix Racer, Fire Engine and more that clearly do not comply with the above standard.
 - c. To our knowledge the requirements for shell design of reloadable shell kits has never had a human factors study done to prove that artwork, trademarks, nose cones, fins or other designs cause consumers to consider the shells as finished

firework devices. Designs and trademarks may help guide the consumer on the proper way to load the shell into the launch tube.

- d. The AFSL requirements for breakout charge for aerial items has been established without any technical data to show cause for the standard plus, because of the different ways that shells are made and fillers are used, the percentage of breakout can be gamed and an item that is on the cusp of compliance can be passed or failed.
 - e. The AFSL calls for testing of multi-shot aerial devices with a tube inside diameter of greater than 1 inch to be subjected to a 2 inch medium density polyurethane foam test. This test has not been proven by experts to be a reliable test for shooting these devices on a soft surface and there is no specification for "medium density" of the foam.
3. The ambiguity and lack of specific guidelines in the current AFSL standards result in a situation in which manufacturers, exporters and importers concerned with safety are faced with high degrees of uncertainty on whether their products will "pass" AFSL testing. Because of the ambiguity of the standards, whether a product batch "passes" is too dependent on the whims of the individual tester on that particular day. In the meantime, parties that are not that concerned with quality and safety can game the system by taking advantage of the ambiguity to get poor products passed.
 4. We strongly believe that product standards and the development of those standards should be separate and distinct from the product testing process. In most other product categories, once product standards have been developed and accepted, companies have a myriad of choices for the testing process, including various third party testing agencies. In the case of the AFSL program, companies have no choice but to engage the services of ITS. This lack of choice in third party testers is anti-trade and can be conducive to an environment of corruption and lack of consistent quality of testing. ITS has no competition and is not held accountable for their testing methods. We have seen evidence of this over the last several years with major recalls of firework product that was tested by ITS to AFSL standards. If the AFSL standards were to be clear and include specific guidelines, processes and tolerances then any reputable, independent third party testing agency should be able to test to those standards.

The AFSL Standards comprise 119 pages of information on 12 different categories of fireworks. For the reasons stated above, we do not believe the standards are good enough in their current form to become mandatory standards.

We recommend the following actions that we believe will make the AFSL standards more rigorous and fair, and will ultimately lead to better compliance and improved safety in consumer firework products:

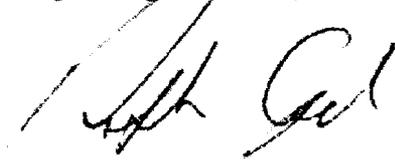
1. AFSL should conduct a full review of each of its current standards. The review should be conducted by a team which includes both industry representatives and outside technical experts. We understand that the AFSL standards committee is currently made up of industry and government personnel, but we believe that there is not enough technical input in the committee. The review should include human factors analysis, chemical and physical studies for each standard.
2. The standards should include specifications, guidelines, acceptable processes and materials for each standard along with tolerances, when and where applicable.
3. AFSL should develop a rigorous process for development of future standards. The process should include development guidelines, the type of analysis needed to show cause for the standard, analysis of reproducibility of test results and a detailed description of the testing process to be performed.
4. Decouple the product standards from the testing process by eliminating the requirement to test only through ITS. If the AFSL has full confidence in its standards and the testability of its standards then any third party independent agency should be able to test to the AFSL standards.

If additional standards are to be incorporated by reference in the CPSC regulations then we suggest that you consider APA 87-1 which is already incorporated by reference in PHMSA regulations at 49CFR Part 173.57(j)(1).

If CPSC relies on any standards, either APA 87-1 or AFSL, they should be enforceable under Section 15 of the FHSA (15 USC Section 1274).

Again, thank you for the opportunity to submit these written comments. We would welcome the opportunity to provide oral testimony at any briefing conference on this ANPR. We would also again invite the CPSC staff to visit a Black Cat Fireworks factory and observe our testing program, which we believe far exceeds the AFSL testing program, or any ITS testing

Respectfully Submitted,



Ralph Apel
President, Black Cat Marketing USA

CEN TC 212 (N363)

Date: 2002-08

prEN 14035-5

CEN TC 212 (N363)

Secretariat: NEN

Fireworks — — Part 5: Batteries or combinations - Specification and test methods

ICS: 71.100.30

Descriptors: explosives, pyrotechnics

Document type: European Standard
Document subtype:
Document stage: CEN Enquiry
Document language: E

T:\Freweh\881 Feuerwerk\norm\14035-05\prEN14035-5 (N 363) Batteries or combinations (E).doc STD Version 2.0

Contents

1	Scope.....	4
2	Normative references	5
3	Terms and definitions	5
4	Construction	5
4.1	Means of ignition.....	5
4.2	Attachment of Initial fuse	6
4.3	Protection of initial fuse	6
4.3.1	General	6
4.3.2	Initial fuse protected by fuse cover.....	6
4.3.3	Initial fuse protected by primary pack or selection pack.....	6
4.3.4	Protruding fuse designed to resist side ignition	6
4.4	Materials of firework case	6
4.5	Integrity	6
4.5.1	Firework case	6
4.5.2	Battery or combination.....	7
4.6	Net explosive content	7
4.6.1	Category 2 battery or combination.....	7
4.6.2	Category 3 battery or combination.....	7
4.7	Calibre (shells-in-mortars only)	7
4.8	Launching tubes.....	7
4.9	Vertical Stability	7
5	Performance	7
5.1	Initial fuse.....	7
5.2	Principal effects.....	8
5.3	Functioning.....	8
5.4	Explosions and other failures.....	8
5.5	Sound pressure level.....	8
5.6	Burning matter.....	8
5.7	Projected Debris.....	8
5.8	Mass of fallout	8
5.9	Height of explosions or bursting (rockets and shells-in-mortars only)	8
5.10	Angle or deviation of flight.....	9
5.11	Means for stabilization of flight (if applicable).....	9
5.12	Stability	9
5.13	Integrity of the firework case after functioning.....	9
5.14	Burning rate of pyrotechnic composition (bengal flame only)	9
6	Primary pack or selection pack	9
7	Minimum labelling requirements	9
7.1	General.....	9
7.2	Type name and category	9
7.3	Safety Information.....	10
7.3.1	General.....	10
7.3.2	Category 2 batteries or combinations	10
7.3.3	Category 3 batteries or combinations	10
7.3.4	Placing Instructions.....	10
7.4	Name, address and telephone number of manufacturer or distributor or importer	11
7.5	Reference to this standard.....	11
7.6	Printing.....	11
7.6.1	Labelling.....	11
7.6.2	Type size	11
7.7	Marking of very small batteries and combinations	11
7.7.1	Reduced size	11

7.7.2	Reduced Information	12
7.8	Additional information on the primary pack or selection pack (if applicable)	12
8	Methods of test	12
8.1	Attachment of protruding fuse (type test and batch test)	12
8.1.1	Apparatus	12
8.1.2	Procedure	12
8.2	Vertical stability test (type test)	13
8.2.1	Apparatus	13
8.2.2	Procedure	13
8.3	Performance (type test and batch test)	13
8.3.1	Test environment	13
8.3.2	Apparatus	14
8.3.3	Procedure	17
8.4	Inclination of launching tube(if applicable) (type test and batch test)	19
8.4.1	Apparatus	19
8.4.2	Procedure	19
8.5	Calibre (if applicable) (type test and batch test)	19
8.5.1	Apparatus	19
8.5.2	Test specimen	19
8.5.3	Procedure	19
8.6	Determination of net explosive content (type test)	19
8.6.1	Apparatus	19
8.6.2	Test specimen	19
8.6.3	Procedure	19
8.7	Side ignition of initial fuse (type test)	20
8.7.1	Material	20
8.7.2	Test area	20
8.7.3	Apparatus	20
8.7.4	Test specimen	20
8.7.5	Procedure	20
8.8	Labelling (type test and batch test)	22
Annex A (normative) Type testing		23
A.1	General	23
A.2	Number of batteries or combinations to be tested	23
A.3	Loose pyrotechnic composition	24
A.4	Thermal conditioning	24
A.5	Mechanical conditioning	24
A.5.1	Apparatus	24
A.5.2	Procedure	28
A.6	Number of primary packs or selection packs to be examined	29
A.7	Test report	29
Annex B (normative) Batch testing		33
B.1	General	33
B.2	Sampling plans	33
B.3	Unit of product	33
B.4	Nonconformities	33
B.5	Test report	35
B.6	Acceptance or rejection of a batch	35
B.6.1	Nonconforming units	35
B.6.2	Critical nonconforming units	35
B.6.3	Major nonconforming units	35
B.6.4	Minor nonconforming units	35
B.6.5	Batteries and combinations supplied in units	36
Annex C (normative) Method for determination of smouldering rate of cigarette		37
Annex D (informative) A-Deviations		38

Foreword

This document (prEN 14035-5:2002) has been prepared by Technical Committee CEN/TC 212, 'Fireworks', the secretariat of which is held by NEN.

In this European Standard the Annexes A to C are normative and the Annex D is informative and contains national deviations due to regulations, the alteration of which is for the time being outside the competence of the CEN/CENELEC member.

1 Scope

This European Standard specifies requirements for the construction, performance, packaging and labelling of batteries or combinations and the corresponding test methods. It is applicable to fireworks which are classified as batteries or combinations in categories 2 and 3 according to prEN 14035-2.

It is applicable to category 2 batteries or combinations containing fireworks listed in prEN 14035-2 and which comply with the requirements of categories 1 and 2.

It is applicable to category 3 batteries or combinations containing fireworks listed in prEN 14035-2 and which comply with the requirements of categories 1, 2 and 3.

It is not applicable to category 2 batteries or combinations containing fireworks listed in prEN 14035-2 and which comply with the requirements of category 3.

It is not applicable to assembled percussion caps, banger batteries or flash banger batteries.

It is not applicable to batteries or combinations containing pyrotechnic composition that includes any of the following substances:

arsenic or arsenic compounds;

lead or lead compounds;

mercury compounds;

mixtures containing a mass fraction of more than 80 % of chlorates;

mixtures of chlorates with metals;

mixtures of chlorates with red phosphorous;

mixtures of chlorates with potassium hexacyanoferrate(II);

mixtures of chlorates with sulphur;

mixtures of chlorates with sulphides;

white phosphorous;

picrates or picric acid;

potassium chlorate with a mass fraction of more than 0,15 % bromates;

sulfur with an acidity (as H₂SO₄) greater than 0,002 %;

zirconium with a particle size less than 40 µm.

NOTE In prEN 14035-2, batteries or combinations are classified as follows:

- Brief description:
 - **Battery:** assembly including several elements, each of the same type and corresponding to one of the types of firework listed in prEN 14035-2, with one point of ignition;
 - **Combination:** assembly including several elements, not all of the same type, each corresponding to one of the types of firework listed in prEN 14035-2, with one point of ignition;
- Principal effects: as for the individual elements.

Schemes for type testing of batteries or combinations and batch testing of batteries or combinations are specified in Annex A and Annex B respectively.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

prEN 14035-1, *Fireworks — Part 1: Terminology.*

prEN 14035-2, *Fireworks — Part 2: Categorisation.*

EN 60651, *Sound level meters.*

EN ISO 845, *Cellular plastics and rubbers — Determination of apparent (bulk) density. (ISO 845:1988)*

EN ISO 868, *Plastics and ebonite — Determination of indentation hardness by means of a durometer (Shore Hardness). (ISO 868:1985)*

EN ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories. (ISO/IEC 17025:1999)*

ISO 2439, *Flexible cellular polymeric materials — Determination of hardness (indentation technique). (ISO 2439:1997, including Technical Corrigendum 1:1998)*

ISO 2859-1, *Sampling procedures for inspection by attributes — Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection. (ISO 2859:1999, including Technical Corrigendum 1:2001)*

ISO 3599, *Vernier callipers, reading to 0,1 and 0,05 mm. (ISO 3599:1976)*

3 Terms and definitions

For the purposes of this European Standard, in addition the terms and definitions given in prEN 14035-1 apply.

4 Construction

4.1 Means of ignition

The means of ignition shall be identified by a protruding fuse.

Conformity to this requirement shall be verified by visual examination.

4.2 Attachment of Initial fuse

The attachment of the protruding fuse to the battery or combination shall be secure when tested in accordance with 8.1.

4.3 Protection of Initial fuse

4.3.1 General

The initial fuse shall be protected in one of the ways specified in 4.3.2, 4.3.3 or 4.3.4.

4.3.2 Initial fuse protected by fuse cover

An orange fuse cover shall be in place over the initial fuse.

Conformity to this requirement shall be verified by visual examination.

4.3.3 Initial fuse protected by primary pack or selection pack

The battery or combination shall be contained in a primary pack or selection pack complying with clause 6.

Conformity to this requirement shall be verified by visual examination.

4.3.4 Protruding fuse designed to resist side ignition

When tested in accordance with 8.7, the protruding fuse shall not ignite.

4.4 Materials of firework case

The body of the firework case shall be made of paper, cardboard or plastics.

The other components in the assembly, excluding staples, means of fixing, and binding wires and rocket tubes containing the propellant charge, shall be made of paper, cardboard, wood or plastics.

Rocket tubes containing the propellant charge, if any, shall be made of paper, cardboard, plastics or sheathed aluminium.

If the end closures are separate components, they shall be made of non-metallic material.

These requirements apply to each individual element and pyrotechnic unit.

The base and/or means of fixing shall be made of non-metallic material.

Conformity to this requirement shall be verified by visual examination.

4.5 Integrity

4.5.1 Firework case

There shall be no holes, splits, dents or bulges in the body of the firework case, except those technically necessary for the correct functioning of the battery or combination. There shall be no holes or splits in the end closures. If the end closure, if any, is a separate component, it shall be securely in place.

These requirements apply to each individual element and pyrotechnic unit.

If the base is a separate component, it shall be securely in place.

Conformity to these requirements shall be verified by visual examination.

4.5.2 Battery or combination

When tested in accordance with clause A.5, the mass of loose pyrotechnic composition shall not exceed 100 mg.

4.6 Net explosive content

4.6.1 Category 2 battery or combination

When determined in accordance with 8.6, a category 2 battery or combination shall have a net explosive content of not more than 200,0 g. Each report charge and whistling charge, if any shall conform to the requirements of the individual elements.

When determined in accordance with 8.6, the net explosive content of each pyrotechnic unit or element shall conform to the requirements as for the individual elements. Each report charge and whistling charge, if any shall conform to the requirements of the individual elements.

4.6.2 Category 3 battery or combination

When determined in accordance with 8.6, a category 3 battery or combination shall have a net explosive content of not more than 1000,0 g or, if the battery or combination contains shells-in-mortars, not more than 500,0 g or, if the battery or combination contains rockets, not more than 300,0 g.

When determined in accordance with 8.6, the net explosive content of each pyrotechnic unit or element, except shells-in-mortars, shall conform to the requirements as for the individual elements.

When determined in accordance with 8.6, the net explosive content of each shell-in-mortar, shall have a net explosive content of not more than 200,0 g.

4.7 Calibre (shells-in-mortars only)

When measured in accordance with 8.5, the inside diameter of the mortar of the shell-in-mortar shall not exceed 105 mm.

4.8 Launching tubes

When measured in accordance with 8.4, the inclination of each launching tube for pyrotechnic units, except mortars and launching tubes for rockets, shall be not more than 15° from the vertical.

NOTE¹ Launching tubes for rockets and mortars of shell-in-mortars shall not be inclined.

4.9 Vertical Stability

Batteries or combinations designed to be placed on the ground, shall not fall over when tested in accordance with 8.2.

5 Performance

5.1 Initial fuse

When tested in accordance with 8.3, the initial fuse shall ignite within 10 s and the ignition shall be visible.

For category 2 batteries or combinations the duration of the initial fuse burning shall be 3,0 s to 8,0 s, when tested in accordance with 8.3.

For category 3 batteries or combinations, the duration of the initial fuse burning shall be 5,0 s to 13,0 s, when tested in accordance with 8.3.

5.2 Principal effects

When tested in accordance with 8.3, the principal effect of the batteries or combinations, as given in prEN 14035-2, shall be as that for each firework type within the assembly.

5.3 Functioning

When tested in accordance with 8.3, all elements or pyrotechnic units of a battery or combination shall function completely.

5.4 Explosions and other failures

When tested in accordance with 8.3, the battery or combination shall not produce an explosion, other than from an intended effect, or rupture during functioning.

5.5 Sound pressure level

When tested in accordance with 8.3, a category 2 battery or combination shall produce an maximum A-weighted impulse sound pressure level (L_{AImax}) of not higher than 120 dB(A) at a horizontal distance of 8,0 m from the testing point and at a height of 1,0 m above the ground.

When tested in accordance with 8.3, a category 3 battery or combination shall produce an maximum A-weighted impulse sound pressure level (L_{AImax}) of not higher than 120 dB(A) at a horizontal distance of 15,0 m from the testing point and at a height of 1,0 m above the ground.

5.6 Burning matter

When tested in accordance with 8.3, no burning or incandescent matter from a category 2 battery or combination shall fall to the ground more than 6,0 m from the testing point.

When tested in accordance with 8.3, no burning or incandescent matter from a category 3 battery or combination shall fall to the ground more than 15,0 m from the testing point.

When tested in accordance with 8.3, any burning or incandescent matter, other than matter resulting from effects concomitant with ascent, from a rocket or a shell of a shell-in-mortar, shall be extinguished at least 10 m above the ground.

When tested in accordance with 8.3, any flames caused by the functioning of the battery or combination shall be extinguished within 60,0 s of the battery or combination ceasing to function.

5.7 Projected Debris

When tested in accordance with 8.3, no debris from a category 2 battery or combination shall be projected laterally more than 8,0 m from the testing point and any particle of debris which is projected laterally more than 6,0 m from the testing point shall not exceed a mass of 1,0 g.

When tested in accordance with 8.3, no debris from a category 3 battery or combination shall be projected laterally more than 15,0 m from the testing point.

5.8 Mass of fallout

When tested in accordance with 8.3, the mass of any particle of debris which results from the functioning of a pyrotechnic unit which is projected upwards from a battery or combination, if any, shall conform to the requirements of the individual elements.

5.9 Height of explosions or bursting (rockets and shells-in-mortars only)

When tested in accordance with 8.3, no explosion shall occur, and the rockets or the shell of the shell-in-mortar shall not burst, below a height of 20 m.

5.10 Angle or deviation of flight

When tested in accordance with 8.3, the angle or the deviation of flight of each element or pyrotechnic unit of a battery or combination shall conform to the requirements as for the individual elements, if any.

5.11 Means for stabilization of flight (if applicable)

When tested in accordance with 8.3, the means for stabilization of flight shall not become detached before the principal effects, other than ascent, occur.

5.12 Stability

When tested in accordance with 8.3, a battery or combination shall remain upright or fixed whilst functioning.

5.13 Integrity of the firework case after functioning

When tested in accordance with 8.3, any firework case of each individual element of a battery or combination shall conform to the requirements as for the individual elements.

5.14 Burning rate of pyrotechnic composition (bengal flame only)

When tested in accordance with 8.3 the pyrotechnic composition shall have a burning rate of more than 60,0 s for 100,0 g of pyrotechnic composition.

6 Primary pack or selection pack

If a primary pack or selection pack is required to protect the initial fuse(s) of the battery (batteries) or combination(s) (see 4.3.3), the pack shall completely enclose the battery (batteries) or combination(s) and there shall be no holes or splits in the pack, except they are intended to open the packaging or otherwise technically necessary.

Conformity to these requirements shall be verified by visual examination.

7 Minimum labelling requirements

7.1 General

Batteries and combinations and their packs, if any, shall be marked with the information specified in 7.2 to 7.5 and, if relevant, 7.7 and/or 7.8.

The specified information shall be given in the language(s) of the country in which the batteries or combinations or packs are offered for retail sale. For each language, it shall be presented as a whole and shall not be interrupted by other text. Additional text given in another language shall not conflict with the specified information.

Conformity to the requirements specified in 7.1 to 7.5, 7.6.1, 7.7.2 and 7.8 shall be verified by visual examination.

NOTE 1 Examples of typical labels for bangers, for which many of the marking requirements are similar to those specified for batteries and combinations in this standard, are given in prEN 14035-4.

7.2 Type name and category

The type name shall be marked, in upper case, as 'BATTERY' or 'COMBINATION'. If a trade name is used in addition to the type name, it shall not conflict with the effect of a battery or a combination or with the name of another type of firework.

The appropriate category shall be marked, in upper case, as 'CATEGORY 2' or 'CAT 2', for example.

7.3 Safety information

7.3.1 General

Safety information shall be emphasized by use of a heading, or bold type, or similar. If necessary, instructions in addition to those specified in 7.3.2 to 7.3.4 may be given.

7.3.2 Category 2 batteries or combinations

Labelling shall include at least the following safety information in the order as follows:

- 'For outdoor use only';
- 'Avoid overhead obstructions'¹⁾;
- 'Remove orange fuse cover'¹⁾;

Specific placing instructions for different types of batteries or combinations, inserted as appropriate (see 7.3.4);

- 'Standing sideways, light fuse at its outermost end and retire immediately at least 8 m'.

7.3.3 Category 3 batteries or combinations

Labelling shall include at least the following safety information in the order as follows:

- 'For outdoor use only';
- 'Avoid overhead obstructions'¹⁾;
- 'Remove orange fuse cover'¹⁾;

Specific placing instructions for different types of battery or combination, inserted as appropriate (see 7.3.4);

- 'Standing sideways, light fuse at its outermost end and retire immediately';
- 'Spectators must be at least 25 m away';
- 'Operator must retire at least 15 m'.

7.3.4 Placing instructions

For batteries or combinations to be placed on flat ground:

- 'Place battery on flat ground'²⁾; or
- 'Place combination on flat ground'²⁾.

For batteries or combinations to be buried into soft ground or material:

- 'Insert battery upright in soft ground or other non-flammable material, e.g. sand'²⁾; or
- 'Insert combination upright in soft ground or other non-flammable material, e.g. sand'²⁾.

For batteries or combinations to be fixed to a post:

¹⁾ If applicable.

²⁾ Whichever is appropriate.

- 'Fix battery firmly and upright to a solid post';
- 'Ensure top of battery clears post'²⁾

or

- 'Fix combination firmly and upright to a solid post';
- 'Ensure top of combination clears post'²⁾.

7.4 Name, address and telephone number of manufacturer or distributor or importer

Labelling shall include:

- the name or trade mark, the address and the telephone number of the manufacturer; or
- an abbreviation or a code allowing the identification of the manufacturer, and the name or trade mark, the address and the telephone number
- of his authorized distributor; or
- if the manufacturer is not established in a CEN member country, of the importer in a CEN member country.

The address shall comprise at least the town and the country. On the battery or combination at least the abbreviations allowing the identification

- of the manufacturer; or
- of the distributor or importer, with an additional code or abbreviation for the manufacturer

shall be marked.

7.5 Reference to this standard

A battery or combination shall be marked with 'prEN 14035-5'. A pack shall be marked with the words 'Contents conform to prEN 14035-5'.

7.6 Printing

7.6.1 Labelling

Labelling shall be clearly visible, easily legible, indelible and on a single-colour background.

NOTE: Printing errors which are not misleading should not be classified as faults.

7.6.2 Type size

When measured in accordance with 8.8, the type sizes shall be such that the height of the character 'X' (in upper case) is at least 2,8 mm for the information specified in 7.2, 7.3 and 7.8 and at least 2,1 mm for the other information.

7.7 Marking of very small batteries and combinations

7.7.1 Reduced size

If the batteries or the combinations do not provide enough space for the specified information using the types sizes specified in 7.6.2, for the information specified in 7.2 and 7.3 the type size shall be reduced to 2,1 mm.

7.7.2 Reduced Information

If the batteries or the combinations do not provide enough space to carry all the specified information even in reduced type size, at least the information specified in 7.4 shall be given on the firework, if at all possible.

7.8 Additional information on the primary pack or selection pack (if applicable)

If the battery or the combination is not labelled completely with the information specified in 7.2 to 7.5, or if the pack acts as protection of the initial fuses according to 4.3.3, the battery or the combination shall only be sold in a pack. The pack shall be marked with the statement

'Must be sold as packaged'.

This statement shall appear adjacent to the type name or category. For the printing 7.6 applies.

8 Methods of test

NOTE: Verification of conformity to the requirements in 4.1, 4.3.2 or 4.3.3, 4.4, 4.5.1, 4.9 clause 6, 7.1 to 7.5, 7.6.1, 7.7.2 and 7.8 is by visual examination.

8.1 Attachment of protruding fuse (type test and batch test)

8.1.1 Apparatus

8.1.1.1 *Means of clamping the battery or combination.*

8.1.1.2 *Weight, of mass 100.*

8.1.1.3 *Timing device, readable to the nearest 0,1 s.*

8.1.2 Procedure

Clamp the battery or combination by means of the clamping device (8.1.1.1) in a position such that the protruding fuse. Securely attach the 100 g weight (8.1.1.2) to the initial fuse.

Using the timing device (8.1.1.3), determine and record, whether the protruding fuse will support the weight for at least 10 s without becoming detached. If the protruding fuse becomes detached do not proceed with further testing of that battery or combination.

8.2 Vertical stability test (type test)

8.2.1 Apparatus

8.2.1.1 *Wooden block*, rectangular, with an upper surface inclined at 10° to the horizontal.

8.2.1.2 *Timing device*, readable to the nearest 0,1 s.

8.2.2 Procedure

8.2.2.1 Place the base of the battery or combination on the inclined surface of the wooden block (8.2.1.1). For polygonal (triangular, etc.) bases, align one edge of the base with the top edge of the wooden block.

8.2.2.2 Using the timing device (8.2.1.2), observe and record whether the battery or combinations falls over within 5 s. If it falls over discontinue the test.

8.2.2.3 Rotate the battery or combination clockwise through 90° and repeat the observation described in 8.2.2.2.

8.2.2.4 Repeat the operations described in 8.2.2.3 twice more (unless the battery or combination falls over).

8.3 Performance (type test and batch test)

8.3.1 Test environment

8.3.1.1 *Test area for category 2 batteries or combinations*. The test area shall be an outdoor site, on level ground, with a radius of at least 7 m and a smooth, hard, horizontal, sound-reflecting, non-flammable surface (for example concrete). Two circles, radius 6,0 and 8,0 m shall be marked around the centre of the test area.

If applicable, two positions for monitoring the height of ascent and the angle of flight shall be provided, at a measured distance of at least 50 m from the testing point (in the centre of the test area) and at 90° to each other in relation to the testing point. If the monitoring positions and the testing point are not in the same horizontal plane, appropriate corrections shall be made in the calculation of heights.

8.3.1.2 *Test area for category 3 batteries or combinations*. The test area shall be an outdoor site, on level ground, with a radius of at least 16 m and a smooth, hard, horizontal, sound-reflecting, non-flammable surface (for example concrete). A circle, radius 15,0 m, shall be marked around the centre of the test area.

If applicable, two positions for monitoring the height of ascent and the angle of flight, as describe in 8.3.1.1, shall be provided.

8.3.1.3 *Wind speed.* A means of measuring the wind speed at a height of 1,5 m above the ground shall be provided. No performance testing shall be carried out if the wind speed exceeds 5,0 m/s.

8.3.2 **Apparatus**

8.3.2.1 *Timing device,* suitable of displaying at least one intermediate time, readable to the nearest 0,1 s.

8.3.2.2 *Timing device,* readable to the nearest 0,1 s.

8.3.2.3 *Ignition source,* capable of producing a small flame or of smouldering.

8.3.2.4 *Sound level meter (for type testing only),* conforming to Type 1 of EN 60651 with a free field microphone.

8.3.2.5 *Means for monitoring the height of ascent, bursting height and the angle of flight,* capable of indicating deviations of the flight of 15° and (for batch testing only) 30° from the vertical at a height of 20 m. Two such items of apparatus are required.

Note: A suitable viewing screen is shown in Figure 1 and the principle of its use is shown in Figure 2. The same device is also illustrated in prEN 14035-30 for monitoring the flight of shells.

Distance x is given, in millimetres, by the equation:

$$x = 600 - \left(\frac{19,4x600}{y} \right)$$

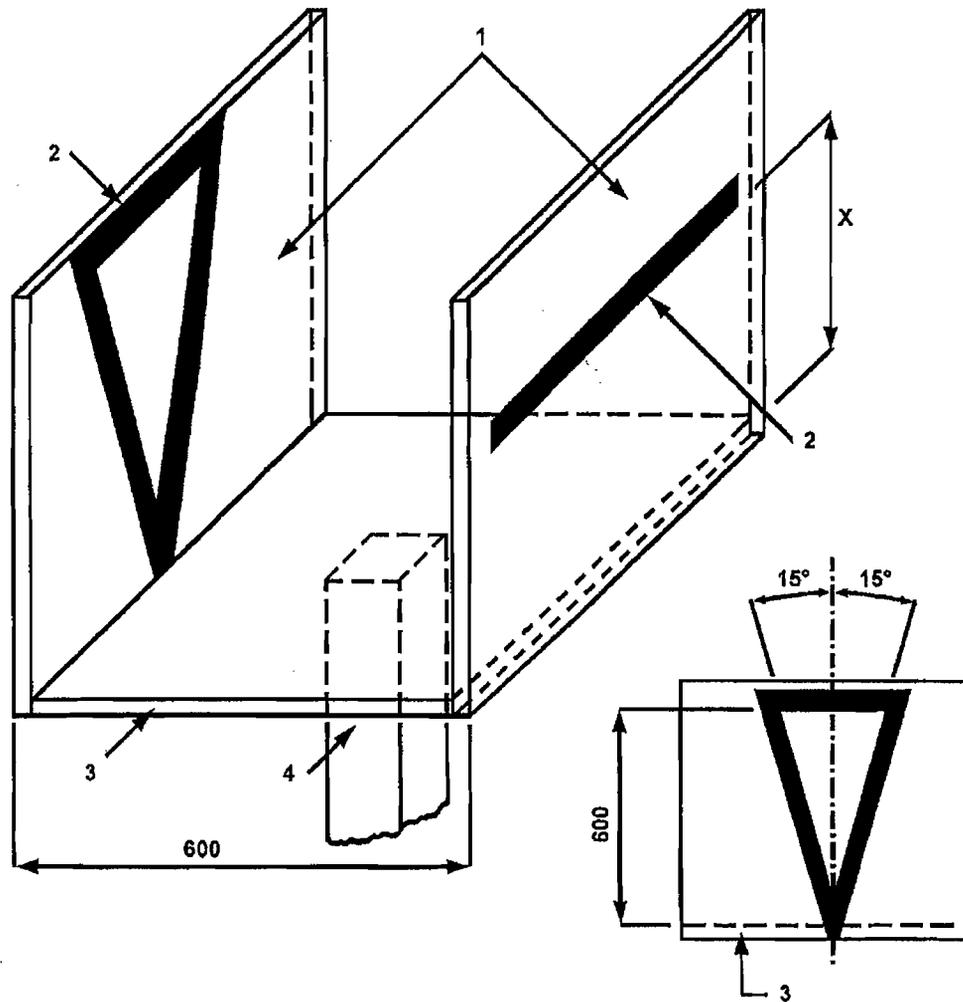
Where y is the distance, in m, from the viewing point to the testing point (see Figure 2).

The observer is positioned so that the bottom edge of the triangle on the front screen coincides with the base of the rocket and the bottom edge of the black screen coincides with the bottom edge of the horizontal tape on the front screen.

{

All dimensions are in millimetre

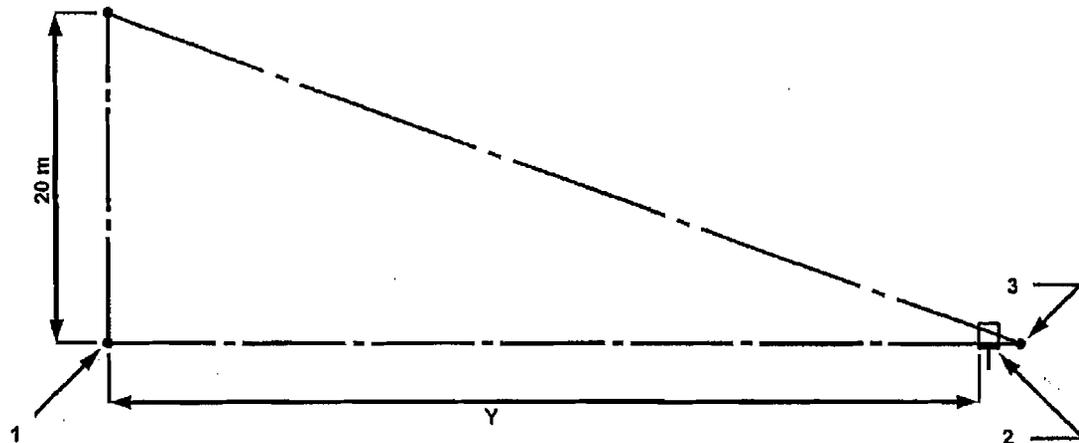
{



Key

- 1 Acrylic glass
- 2 Black tape, 10 mm to 20 mm wide
- 3 Solid base
- 4 Stand

Figure 1 - Viewing screen



Key

- 1 Base of battery or combination before firing
- 2 Sighting device
- 3 Position of observer

Figure 2 - Use of a viewing screen to monitor a height of 20 m

8.3.2.6 Means for monitoring the height of fallout, capable of indicating vertical heights of 5 m and 10 m.

NOTE 1 A vertical height of 5 m can be indicated by 5 m poles around the edge of the test area and the 10 m height can be estimated using the same poles.

8.3.2.7 Measuring device, capable of measuring a height of 1,0 m to the nearest 10 mm.

8.3.2.8 Laboratory balance, capable of weighing to the nearest 0,1 g.

8.3.3 Procedure

8.3.3.1 Measure and record the wind speed (see 8.3.1.3).

8.3.3.2 If carrying a type test and if applicable, set up the microphone of the sound level meter (8.3.2.4) in the test area (8.3.1.1 or 8.3.1.2), at a height of 1,0 m above the ground, determined by the measuring device (8.3.2.7), and at a horizontal distance from the testing point of 8,0 m for category 2 batteries or combinations or 15,0 m for category 3 batteries or combinations. If the aural effect will be produced on the ground, direct the microphone horizontally, towards the testing point and if necessary connect it to the sound level meter.

If the aural effect will be produced in the air, direct the microphone with an angle of 45° upwards towards the testing point.

8.3.3.3 Place the battery or combination, in accordance with the instructions on the label in the centre of the test area. Remove the orange fuse cover, if any, and straighten the initial fuse, if necessary. Apply the ignition source (8.3.2.3) and at the same instant, start the timing device (8.3.2.1). Stop the intermediate time at the moment the protruding fuse ignites. If the initial fuse fails to ignite within 10 s do not proceed with further testing of that battery or combination.

Otherwise stop the timing device when the battery or combination starts to produce its first principal effect.

If the battery or combination contains any bengal flames, start the second timing device (8.3.2.2) at the moment the bengal flame starts to produce coloured flames and stop the timing device at the moment the bengal flame ceased to function.

Record whether the initial fuse ignited within 10 s and whether the ignition of the initial fuse was visible.

8.3.3.4 Record the duration of the initial fuse burning. Observe and record the principal effects produced by the battery or combination. Observe and record whether the battery or combination explodes, other than from an intended effect.

Observe and record whether the battery or combination remains fixed or upright whilst functioning.

After the battery or combination has ceased to function start the timing device (8.3.2.1) immediately and record whether any flames caused by the functioning of the battery or combination are extinguished within 60,0 s after the battery or combination has ceased to function.

If applicable, observe and record whether any means for stabilization of flight becomes detached before the principal effects, other than ascent occurred.

Observe and record whether any burning or incandescent matter fell to the ground at a distance of more than 8,0 m, for a category 2 battery or combination, or 15,0 m, for a category 3 battery or combination, from the testing point.

Observe and record whether any debris is projected laterally more than 8,0 m, for a category 2 battery or combination, or 15,0 m, for a category 3 battery or combination, from the testing point.

8.3.3.5 If carrying out a type test of a battery or combination with aural effect, record the maximum A-weighted impulse sound pressure level, as measured by the sound level meter (8.3.2.4).

8.3.3.6 If the battery or combination contains any rocket, observe from both monitoring positions, using the means for monitoring ascent (8.3.2.5), and record whether the angle of flight of the rocket exceeded 15° to the vertical at a height of 20 m or 30° for batch testing.

If the battery or combination contains any rocket or shell-in-mortar, observe from both monitoring positions, using the means for monitoring ascent (8.3.2.5), and record whether the rocket or the shell explodes or bursts at a height of less than 20 m above the ground.

If the battery or combination contains any element which projects pyrotechnic units upwards, observe from both monitoring positions, using the means for monitoring the height of fallout (8.3.2.6), and record whether any burning or incandescent matter falls below a height of 5 m from the ground, for a category 2 battery or combination, or below a height of 10 m from the ground, for a category 3 battery or combination, before it is extinguished.

8.3.3.7 After the battery or combination has ceased to function, and if appropriate, for a category 2 battery or combination, collect and weigh individually, to the nearest 0,1 g using the balance (8.3.2.8), any particle of debris which might exceed a mass of 1,0 g and which has fallen to the ground between the 6,0 m radius circle and the 8,0 m radius circle. Record whether any such particle of debris has a mass of more than 1,0 g.

After the battery or combination has ceased to function, and if appropriate, collect and weigh individually, to the nearest 0,1 g using the balance (8.3.2.8), any particle of debris which results from the functioning of a pyrotechnic unit which was projected upwards from the battery or combination.

8.3.3.8 After functioning examine the battery or combination visually and determine and record whether the battery or combination and all elements or pyrotechnic units have functioned completely and whether the integrity of any firework case conforms to the requirements as for the individual elements.

8.3.3.9 If the battery or combination contains any bengal flame, estimate the burning rate in seconds per 100 g of the pyrotechnic composition by dividing the measured burning time in seconds of the pyrotechnic composition of the bengal flame by the net explosive content in grams of the bengal flame, determined in accordance with 8.6 and multiplying this result with 100. Record the burning rate.

8.4 Inclination of launching tube(if applicable) (type test and batch test)

8.4.1 Apparatus

8.4.1.1 *Precision sliding bevel.*

8.4.1.2 *Bevel protractor, reading to 1°.*

8.4.2 Procedure

Carefully remove the firework case from a battery or combination. Place the battery or combination on a smooth, levelled surface (e.g. tabletop). Duplicate the angle the angle of the launching tube, if any, by pressing one leg of the sliding bevel (8.4.1.1) towards the levelled surface and the other leg towards the outside of the launching tube. Lock both legs by tighten the fixing screw. Using the bevel protractor (8.4.1.2) measure the angle between both legs. Record the angle.

Record whether any launching tube for a rocket or any mortar of a shell-in-mortar was inclined.

8.5 Calibre (if applicable) (type test and batch test)

8.5.1 Apparatus

8.5.1.1 *Vernier callipers, reading to 0,1 mm, conforming to ISO 3599.*

8.5.2 Test specimen

Use the battery or combination obtained from the measurement of the inclination of launching tube (8.4) or from the determination of the net explosive content (8.6).

8.5.3 Procedure

Using the callipers (8.5.1.1), measure the inside diameter of the mortar. Record the diameter.

8.6 Determination of net explosive content (type test)

8.6.1 Apparatus

8.6.1.1 *Laboratory balance, capable of weighing to the nearest 0,01 g.*

8.6.2 Test specimen

If present, use the battery or combination obtained from the measurement of the inclination of launching tube (8.4).

8.6.3 Procedure

Carefully dismantle a battery or combination. Separate the protruding fuse and retain this for the side ignition test (8.7). Separate any pyrotechnic unit and count them. Record the number of pyrotechnic units.

Separate any pyrotechnic unit containing report composition, if any, and count them. Record the number of pyrotechnic units containing report composition.

Remove the pyrotechnic composition from each pyrotechnic unit and weigh each portion of pyrotechnic composition separately, to the nearest 0,1 g, using the balance (8.6.1.1). Record the masses, the total mass of report composition, if any, and the net explosive content of the battery or combination.

8.7 Side ignition of Initial fuse (type test)

8.7.1 Material

8.7.1.1 Cigarette, unlit, of length (70 ± 4) mm, diameter $(8,0 \pm 0,5)$ mm and mass $(1,0 \pm 0,1)$ g, and having a smouldering rate of $(9,5 \pm 3,0)$ min over 40 mm distance when determined in accordance with Annex C.

8.7.2 Test area

The test area shall be a flat, horizontal, non-flammable surface inside a fume cupboard, or similar enclosed space, which is capable of preventing movement of air. A means of extracting fumes shall be provided but this shall be switched off during the test.

8.7.3 Apparatus

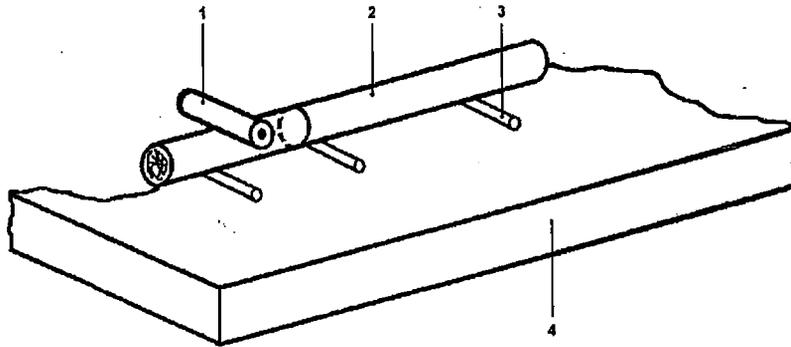
8.7.3.1 Three *wire supports*, $(2,0 \pm 0,1)$ mm diameter, approximately 50 mm long.

8.7.4 Test specimen

Use the initial fuse obtained by dismantling the combination for the determination of net explosive content (8.6).

8.7.5 Procedure

Ignite the cigarette (8.7.1.1) and rest it horizontally, on three wire supports (8.7.3.1) above the non-flammable surface in the test area (8.7.2), as shown in Figure 3. Place the test specimen (8.7.4) crosswise over the cigarette, 15 mm from the end which has been ignited. Allow the cigarette to burn 10 mm beyond the point where the initial fuse crosses it. Record whether the initial fuse is ignited.

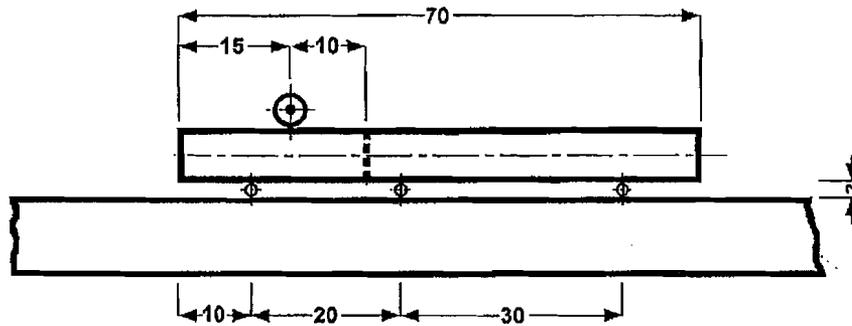


Key

- 1 Test specimen
- 2 Cigarette
- 3 Wire support
- 4 Non-flammable surface

a) Test assembly

All dimensions are in millimetre



b) Dimensions

Figure 3 - Side ignition test

8.8 Labelling (type test and batch test)

Check conformity to 7.6.2 and 7.7.1 for example by comparing the type sizes on the actual label with a transparent copy made from Figure 4. Record whether the type sizes were correct.

2,8 mm: ABC abc XYZ xyz 123

2,1 mm: ABC abc XYZ xyz 123

Figure 4: Sizes of print

Annex A (normative) Type testing

A.1 General

For the purposes of type testing each of the batteries or combinations tested, except those used for the measurement of the inclination and the calibre and for the determination of net explosive content, shall meet one of the following sets of requirements.

a) If the battery or combination has an initial fuse which is not designed to resist side ignition, it shall conform to 4.1, 4.2, 4.3.2 or 4.3.3, 4.4, 4.5, 4.7, 4.8, 4.9 and clauses 5 and 7.

b) If the battery or combination has an initial fuse designed to resist side ignition, it shall conform to 4.1, 4.2, 4.3.4, 4.4, 4.5, 4.7, 4.8, 4.9 and clauses 5 and 7.

The batteries or combinations used for the determination of net explosive content shall each conform to 4.6, 4.8, if applicable, and, if the initial fuse is designed to resist side ignition, it shall conform to 4.3.4.

The batteries or combinations subjected to mechanical conditioning in accordance with clause A.5 shall, additionally, conform to clause A.3.

For batteries or combinations which are supplied in packs in order to protect the initial fuses of the batteries or combinations (see 4.3.3), each of the packs examined shall conform to clause 6 and 7.

A.2 Number of batteries or combinations to be tested

A total of 33 batteries or combinations shall be tested, in accordance with Table A.1. If the batteries or combinations are supplied in packs they shall be selected at random from at least 5 packs.

Table A.1: Number of batteries or combinations to be tested

Number of batteries or combinations to be tested	Condition	Tests
10	'As received'	-Visual examination, -8.1 -8.2, if applicable -8.3 -8.8
10	After thermal conditioning in accordance with clause A.4	-Visual examination, -8.1 -8.3

10	After mechanical conditioning in accordance with clause A.5	-Visual examination, -8.1 -8.3
3	'As received'	-8.4, if applicable -8.5, if applicable -8.6 -8.7

A.3 Loose pyrotechnic composition

The mass of any loose pyrotechnic composition collected after mechanical conditioning in accordance with clause A.5 shall not exceed 100 mg.

A.4 Thermal conditioning

Store the batteries or combinations for four weeks at a temperature of $(50,0 \pm 2,5)$ °C and then for at least two days at room temperature before testing. For batteries or combinations supplied in packs, condition the batteries or combinations by storing the appropriate number of complete, unopened packs.

A.5 Mechanical conditioning

A.5.1 Apparatus

A.5.1.1 *Mechanical shock apparatus*, as illustrated in Figures A.1 to A.3, comprising the following components.

a) a flat horizontal platform made of steel, 800 mm x 600 mm, 2 mm to 3 mm thick, with a 3 mm thick rim having a height of 15 mm; the platform is reinforced with eight steel ribs, 5 mm thick with a height of 30 mm, which are welded to the underside and run from the centre to each of the four corners and to the middle of each edge;

b) a 20 mm thick plate of fibreboard, firmly attached to the platform by screws;

c) a cylindrical steel boss, diameter 125 mm and height 35 mm, located under the centre of the platform;

d) a 284 mm long shaft, with diameter of 20 mm, fixed to the centre of the boss;

e) a restraining peg, to prevent the platform from rotating; the mass of the platform assembly (items a) to e)) shall be $23 \text{ kg} \pm 1 \text{ kg}$;

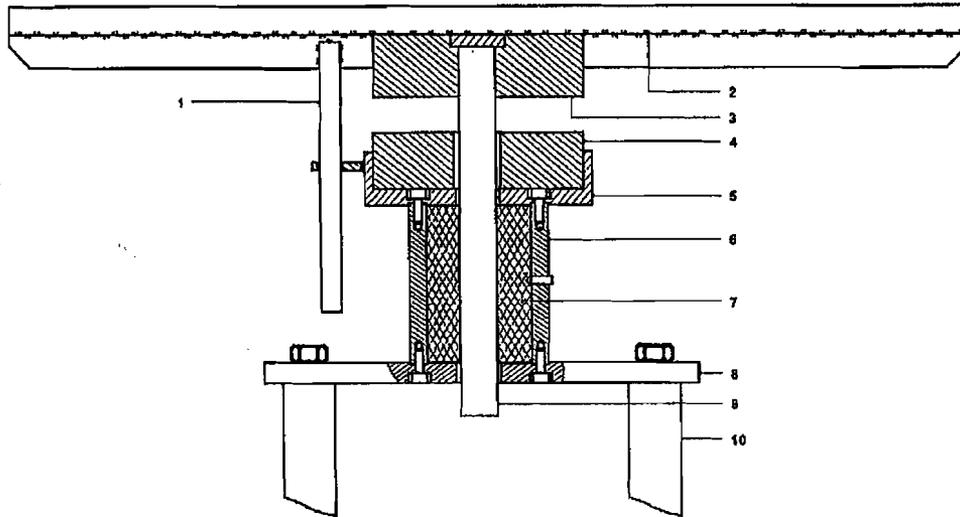
f) an annular, elastomeric pressure spring, with a Shore hardness A, when determined in accordance with EN ISO 868, of 68, outside diameter 125 mm, inside diameter 27 mm and height 32 mm, on which the cylindrical boss will rest;

g) a shallow steel cylinder, inside diameter 126 mm, wall thickness 5 mm, outside height 30 mm, with a base 8 mm thick which has a 25 mm diameter hole drilled through the centre, to contain the elastomeric spring;

h) a supporting steel cylinder, outside diameter 80 mm, inside diameter 60,1 mm and height 92,4 mm, to which the shallow cylinder is screwed;

i) a PVC liner, outside diameter 60 mm, inside diameter 20,2 mm and height 92,4 mm, located inside the supporting cylinder and attached by a screw;

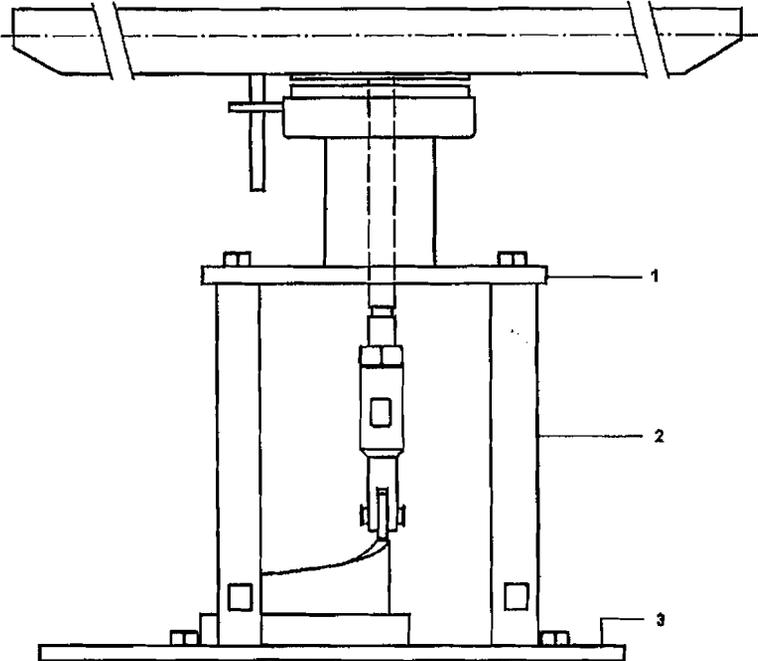
- j) a steel mounting plate, thickness 12 mm, with a 25 mm hole drilled through the centre, to which the supporting steel cylinder is screwed;
- k) a steel base plate, thickness 12 mm;
- l) four supporting pillars, height 260 mm and diameter 32 mm, screwed to the mounting plate and to the base plate;
- m) a framework to support the base plate so that the complete assembly is at a convenient working height;
- n) an attachment to the shaft, allowing adjustment to the overall length, fitted with a cam wheel, outside diameter 30,0 mm, with a contact surface 8,0 mm wide;
- o) a cylindrical cam, outside diameter 120 mm, inside diameter 100 mm, wall thickness 10 mm, with a 'vertical drop' of 50,0 mm between the high point and the low point;
- p) a collar, outside diameter 50 mm, height 4,0 mm;
- q) an electric motor and suitable gearing, to rotate the cam at a rotational frequency of 1 Hz.



Key

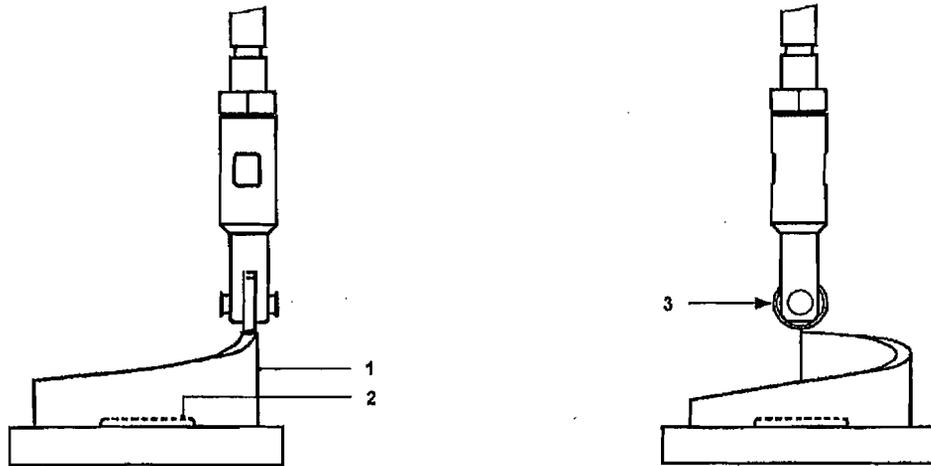
- 1 Restraining peg
- 2 Platform
- 3 Boss
- 4 Pressure spring
- 5 Cup
- 6 Supporting cylinder
- 7 PVC liner
- 8 Mounting plate
- 9 Shaft
- 10 Supporting pillar

Figure A.1 — Detail of top section of mechanical shock apparatus



- Key**
- 1 Mounting plate
 - 2 Supporting pillar
 - 3 Base plate

Figure A.2 — General assembly of mechanical shock apparatus



Key

- 1 Cam
- 2 Collar
- 3 Cam wheel

Figure A.3 — Detail of shaft attachment and cam assembly of mechanical shock apparatus

A.5.1.2 Cellular rubber sheet, 100 mm thick. The material used shall have an apparent density, when determined in accordance with EN ISO 845, of 35 kg/m^3 and an indentation hardness check, when determined in accordance with ISO 2439, of 215 N.

A.5.1.3 Laboratory balance, capable of weighing to the nearest 0,1 mg.

A.5.2 Procedure

A.5.2.1 Conditioning. Place a sheet of paper on the platform of the mechanical shock apparatus (A.5.1.1) and place the batteries or combinations on top of the sheet of paper. For batteries or combinations which are supplied in packs in order to protect the initial fuses of the batteries or combinations, use the appropriate number of complete, unopened packs. Cover the batteries or combinations or packs with the cellular rubber sheet (A.5.1.2) and secure it to the platform around its edges. Start the machine so that the platform is raised and dropped onto the elastomeric spring, having adjusted the drop height (to about 25 mm) so that the maximum deceleration of each shock is 490 m/s^2 and the duration of each shock impulse is about 60 ms. Continue running the machine for 2 h.

A.5.2.2 Collection of loose pyrotechnic composition. At the end of the 2 h period stop the machine and remove the batteries or combinations or packs. For batteries or combinations which have been conditioned in packs, carefully open the packs, remove the batteries or combinations and empty any loose material on to the sheet of paper. Separate any pyrotechnic composition from the other loose material and weigh this pyrotechnic composition to the nearest 1 mg using the balance (A.5.1.3). Record whether the mass of the pyrotechnic composition exceeds

100 mg and for each individual element, record whether closure of the mouth, if any, was in place and retained the contents.

A.6 Number of primary packs or selection packs to be examined

For batteries or combinations which are supplied in packs in order to protect the initial fuses of the batteries or combinations, examine at least five packs to assess compliance with clause 6 and 7. The packs to be examined shall include all those whose contents are used for the tests described in clause 8.

A.7 Test report

The test report shall conform to EN ISO/IEC 17025 and shall include at least the following information, with items m) to w) and bb) to ss) being given for each battery or combination tested:

- a) * a reference to this standard, i.e. EN 14035-5;
- b) * the complete identification of the sample under test;
- c) * the date of completion of the testing;
- d) * whether the means of ignition is identified by a protruding fuse;
- e) * the means by which the initial fuse is protected;
- f) if the initial fuse is designed to resist side ignition, whether the protruding fuse ignited for each of the items tested for that purpose;
- g) if applicable, for each pack examined, whether the pack completely enclosed the battery(ies) or combination(s) and whether there were any holes or splits in the pack except those intended to enable the packaging to be opened and those which are otherwise technically necessary;
- h) the net explosive content of the battery or combination tested for that purpose, in grams

and

for each category 2 battery or combination tested for that purpose, whether the net explosive content exceeds 200,0 g and for all individual elements of each battery or combination tested for that purpose whether the total net explosive content and the net explosive content of each pyrotechnic unit, if any, and mass of report charge and whistling charge, if any, conform to the requirements of the individual element; tested for that purpose

and

for a category 3 battery or combination whether the net explosive content of each battery or combination tested for that purpose exceeds 1000,0 g or 300,0 g if the battery or combination contains a rocket or 500,0 g if the battery or combination contains a shell-in-mortar and for all individual elements of the category battery or combination tested for that purpose whether the total net explosive content, the net explosive content of each pyrotechnic unit, if any, and mass of report charge and whistling charge, if any, conform to the requirements of the individual element;

- i) * if applicable, for each pack examined, whether the type name, category, safety information, name and address and telephone number of the manufacturer^a or distributor^a or importer^a and the reference to this standard were correctly stated on the pack;

- j) * If applicable, for each pack examined, whether the statement 'Must be sold as packaged' was correctly stated on the pack;
- k) * if applicable, for each pack examined, whether the specified information on the pack was clearly visible, easily legible, indelible, on a single-colour background and whether the type sizes were correct;
- l) whether the mass of any loose pyrotechnic composition collected after mechanical conditioning exceeded 100 mg and for each element, whether closures of the mouths, if any, were in place retained the contents of the battery or combination and of the individual elements, after mechanical conditioning;
- m) * the materials of the body of the firework case, each individual element and pyrotechnic unit, the base and the means of fixing, if any,
and
whether the materials of the firework case, each individual element and pyrotechnic unit, excluding staples and binding wires and rocket tubes containing the propellant charge, are paper, cardboard or plastics and whether the materials of the rocket tube containing the propellant charge, if any, was cardboard, plastics or sheathed aluminium
and, if applicable,
whether the end closures, the base and/or the means of fixing was made of non-metallic material;
- n) * If applicable, whether the orange fuse cover was in place over the initial fuse;
- o) * whether there were any holes, splits, dents or bulges in the body of the firework case, each individual element and pyrotechnic unit, except those technically necessary for the correct functioning of the battery or combination;
- p) * if applicable, whether there were and holes and splits in any end closure;
- q) * if applicable, whether the closures were securely in place;
- r) * if applicable, whether the base was securely in place;
- s) * if applicable, whether there were any holes or splits in the end closures and whether any end closure was loose or missing;
- t) * if applicable, whether the type name, category, safety information, name and address and telephone number of manufacturer^a or distributor^a or importer^a and the reference to this standard were correctly stated on the battery or combination;
- u) * if applicable, whether the specified information on the battery or combination was clearly visible, easily legible, indelible, on a single-colour background and whether the type sizes were correct;
- v) * whether the protruding fuse was securely attached to the battery or combination;
- w) whether the battery or combination fell over when tested for vertical stability;
- x) if applicable, whether the inclination of launching tube exceeded 15°;
- y) If applicable, whether any launching tube for a rocket or any mortar of a shell-in-mortar was inclined;
- z) if applicable, whether any calibre exceeded the requirements given for the individual

elements;

- aa) * the wind speed at the time of performance testing, in metres per second;
- bb) * whether the initial fuse ignited within 10 s;
- cc) * whether the ignition of the initial fuse was visible;
- dd) * the duration of the initial fuse burning in seconds
and
whether the duration of the initial fuse burning was not less than 3,0 s or more than 8,0 s for a category 2 battery or combination or not less than 5,0 s or more than 13,0 s for a category 3 battery or combination;
- ee) * whether the battery or combination produced its principal effects;
- ff) * whether the battery or combination exploded, other than from an intended effect;
- gg) * whether all individual elements or pyrotechnic units of the battery or combination functioned completely;
- hh) * if applicable, whether the rocket or shell from the shell-in-mortar exploded or burst below a height of 20 m above the ground;
- ii) * if applicable, whether any means of stabilization of flight became detached before the principal effects, other than ascent occurred;
- jj) if applicable, whether the deviation or the angle of flight exceeds the requirements given for the individual elements;
- kk) * if applicable, whether any particle of debris which resulted from the functioning of a pyrotechnic unit which was projected upwards from the battery or combination had a mass which exceeds the requirements given for the individual elements;
- ll) * if applicable, whether any burning or incandescent matter fell below a height of 5 m from the ground, for a category 2 battery or combination, or below a height of 10 m from the ground, for a category 3 battery or combination, before being extinguished;
- mm) * whether the battery or combination remains upright or fixed whilst functioning;
- nn) if applicable, the maximum A-weighted impulse sound pressure level, in decibels (A) and whether the maximum A-weighted impulse sound pressure level exceeded 120 dB(A);
- oo) * whether any burning or incandescent matter fell to the ground a distance of more than 6,0 m, for category 2 batteries or combinations, or 15,0 m, for category 3 batteries or combinations, from the testing point;
- pp) * whether any flames caused by the functioning of the outdoor battery or combination were extinguished within 60,0 s of the battery or combination ceasing to function;
- qq) * whether any debris was projected laterally more than 8,0 m, for category 2 batteries or combinations, or 15,0 m, for category 3 batteries or combinations, from the testing point;
- rr) * whether the integrity of any firework case after functioning did not conform to the requirements as for the individual elements;
- ss) if applicable, the burning time of the pyrotechnic composition and whether the burning

time was not more than 60,0 s for every 100,0 g of pyrotechnic composition.

Note The asterisks in the above list are referred to in clause B.5.

- a) Whichever applies.

{

{

Annex B (normative) Batch testing

B.1 General

For the purposes of batch testing, acceptance sampling in accordance with clauses B.2 to B.6 shall be applied.

B.2 Sampling plans

Sampling shall be in accordance with ISO 2859-1 using double sampling plans and applying the switching procedures for normal, tightened and reduced inspection. Inspection level S-4 shall apply.

B.3 Unit of product

For batteries or combinations which are not supplied in packs, the unit of product on which the sample size is based shall be the individual battery or combination.

For batteries or combinations which are supplied in packs, the unit of product for the purpose of sampling to assess compliance with the requirements for the batteries or combinations shall be an individual battery or combination and the sample shall comprise the contents of the appropriate number of packs. The pack shall be the unit of product for the purpose of sampling to assess compliance with the requirements for the packs themselves and the appropriate number of packs shall be sampled separately and examined for faults.

B.4 Nonconformities

Nonconformities shall be classed in accordance with Table B.1.

Table B.1 — Summary of requirements and types of nonconformity for batch testing

Ref.	Property	Requirement	Test method	Type of nonconformity ^a
4.1	Identification of means of ignition	See 4.1	Visual	Major
4.2	Attachment of initial fuse	Shall be secure	8.1	Major
4.3.2	Orange fuse cover over initial fuse ^b	Shall be in place	Visual	Major
4.4	Materials of firework case	See 4.4	Visual	Critical
4.5.1	Integrity of firework case	See 4.5.1	Visual	Major
5.1	Ignition of initial fuse	See 5.1	8.3	Major
		Shall be visible	8.3	Major
5.1	Duration of initial fuse burning:		8.3	

	Category 2 battery or combination	(3,0 s to 8,0 s) Extent of nonconformity: < 2,0 s or > 10,0 s ≥ 2,0 s and < 3,0 s or > 8,0 s and ≤ 10,0 s		Critical Major
	Category 3 battery or combination	(5,0 s to 13,0 s) Extent of nonconformity: < 3,0 s or > 15,0 s ≥ 3,0 s and < 5,0 s or > 13,0 s and ≤ 15,0 s		Critical Major
5.2	Principal effect	As given for the individual elements or pyrotechnic units	8.3	Minor
5.3	Functioning	All individual elements or pyrotechnic units of the battery or combination shall function completely	8.3	Major
5.4	Explosion	See 5.4	8.3	Critical
5.6	Burning or incandescent matter	See 5.6	8.3	Critical
5.6	Extinguishing of any flames	≤ 60,0 s after the battery or combination has ceased to function	8.3	Minor
5.7	Projected debris	See 5.7	8.3	Major
5.8	Mass of fallout ^b	See 5.8	8.3	Major
5.9	Height of bursting or Explosion ^b	See 5.9	8.3	Critical
5.10	Angle or deviation of flight ^b	See 5.10	8.3	Major
5.11	Means for stabilisation of flight ^b	See 5.11	8.3	Critical
5.12	Stability	Shall remain upright or fixed whilst functioning	8.3	Major
5.13	Integrity of the firework case after functioning	See 5.13	8.3	Critical
5.14	Burning rate of pyrotechnic composition ^b	Shall exceed 60,0 s for 100,0 g	8.3	Major

6	Integrity of pack ^a	Pack shall completely enclose the battery or combination and shall have no holes or splits, except there are intended to open the packaging or otherwise technically necessary	Visual	Critical
7	Labelling of battery or combination ^b	Shall be correctly stated and legible and on a single colour background	Visual	Minor
7	Labelling of pack ^d	Shall be correctly stated and legible and on a single colour background	Visual	Minor
7	Sizes of print	See 7.6.2, 7.7.1 and 7.8 ^b	8.8	Minor
<p>^a See 3.32, 3.33 and 3.34 in prEN 14035-1:2002.</p> <p>^b If applicable.</p> <p>^c If a pack is required to protect the initial fuses of the batteries or combinations.</p> <p>^d If there is a pack.</p>				

B.5 Test report

The test report shall include at least the items marked with an asterisk in clause A.7 (with items m) to v), bb) to mm) and oo) to ss) being given for each battery or combination tested).

B.6 Acceptance or rejection of a batch

B.6.1 Nonconforming units

Acceptance or rejection of the batch shall be determined by the number of nonconforming units of each type, in accordance with B.6.2 to B.6.5.

NOTE: Acceptance or rejection of the batch is determined by the number of nonconforming units of each type and not necessarily by the number of nonconformities found.

B.6.2 Critical nonconforming units

For critical nonconforming units an acceptable quality level (AQL) of 0,65 % shall apply. If the batch fails to meet this criterion, it shall be rejected. Any critical nonconforming units shall not also be counted as major nonconforming units or minor nonconforming units.

B.6.3 Major nonconforming units

For major nonconforming units an AQL of 2,5 % shall apply. If the batch fails to meet this criterion, it shall be rejected. Any major nonconforming units shall not also be counted as minor nonconforming units.

B.6.4 Minor nonconforming units

For minor nonconforming units an AQL of 10 % shall apply. If the batch fails to meet this criterion, it shall be rejected.

B.6.5 Batteries and combinations supplied in units

For batteries or combinations which are supplied in packs, the acceptance criteria in B.6.2, B.6.3 and B.6.4 shall be applied separately to the actual batteries or combinations and to the packs (see clause B.3).

Annex C (normative) Method for determination of smouldering rate of cigarette

Condition the cigarette for at least 16 h, immediately before the test, at a temperature of (23 ± 2) °C and a relative humidity of (50 ± 5) %.

Mark the cigarette at 5 mm and 45 mm from the end to be lit. Ignite the cigarette and draw air through it until the tip glows brightly. Not less than 5 mm and not more than 8 mm of the cigarette shall be consumed in this operation. In draught-free air, impale the cigarette horizontally on a horizontal spike inserted not more than 13 mm from the unlit end. Record the time taken for the cigarette to smoulder from the 5 mm mark to the 45 mm mark.

Annex D (informative) A-Deviations

A-Deviation: National deviations due to regulations, the alteration of which is for the time being outside the competence of the CEN members.

This European Standard does not fall under any Directive of the EC.

In the relevant CEN/CENELEC countries these A-deviations are valid instead of the provisions of the European Standard until they have been removed.

<u>Clause</u>	<u>Deviation</u>
---------------	------------------

Stevenson, Todd A.

From: Ralph Apel [ralph@blackcatfireworks.com]
Sent: Friday, September 08, 2006 8:01 AM
To: Stevenson, Todd A.
Subject: Fireworks ANPR
Attachments: ANPR Final v2.pdf; European Standard.pdf

Attached is our letter of comments on the Fireworks ANPR along with a copy of the European Standard as a reference of very specific firework standards.

Ralph J. Apel, President
Black Cat Marketing USA

9/8/2006


Stevenson, Todd A.

From: Sugedog@aol.com
Sent: Friday, September 08, 2006 11:48 AM
To: Stevenson, Todd A.
Subject: [Possibly SPAM (k):] - ``FIREWORKS ANPR - Found word(s) drugs in the Text body

The CPSC has done a great job in the regulation of fireworks through labeling, size, powder content and fusing. I believe because of your input they have become a lot more safer than they were. However there are still injuries. I for one do not want to see a total ban on fireworks. I think more education through pamphlets and TV stressing the danger of fireworks will show people they can injure if not used properly. I think by stressing the fact that alcohol and fireworks don't mix and anyone caught drinking and lighting fireworks will be heavily fined or even do jail time. Most of all fireworks are not toys and should never absolutely never be given to children. If they are again fine or jail time. We've educated about drinking and driving, about smoking and about taking drugs. Why can't we educate about fireworks? With your help i believe injuries due to fireworks will drop significantly. Thank you for listening to me
and thank you for all the work you have done and will do.

Bill Morrison
blmrs2002@yahoo.com

*Fireworks
ANPR
27***~~Stevenson, Todd A.~~**

From: Karen Metcalf [thefireworkslady@gmail.com]
Sent: Saturday, September 09, 2006 2:22 PM
To: Stevenson, Todd A.
Subject: [Possibly SPAM (k):] - Fireworks ANPR - Found word(s) risk free in the Text body

The following is our opinion regarding the ANPR. We support continued testing of imported 1.4G fireworks, and we agree that the ultimate purpose of such testing is public safety. We feel that it is important that multiple testing laboratories be available for use in this process. By eliminating a multiple lab scenario, opportunities arise for inequities in the testing process, including subjective reviews, and inconsistent and unauditible processes. Testing standards should be approved through open public processes, and not dictated by private organizations. It is a restraint of free trade to force everyone to use ITS as the only approved tester for the AFSL standards. If AFSL believes in its standards, and the testability of its standards, then any third party tester should be able to test to those standards.

We will be supportive of making AFSL's standards mandatory, only if AFSL does the following:

1. Completes a full review of each of its standards and subjects the standards to outside technical review and human factors analysis;
2. Provides comprehensive standards that includes specific guidelines, acceptable materials, procedures, tolerances, and detailed testing procedures;
3. Allows any recognized third party testing agency to test products in accordance with the AFSL standards.

With regard to the risk of injury, it also occurs to us that to truly coordinate efforts to address safety issues, the method of classifying injuries must be made more precise. Many injuries reported as fireworks injuries are not related to the actual use of the device, or are a result of misuse of a device, causing reports to be inaccurate. It is difficult to make an accurate risk of injury analysis without proper input.

Thank you for the opportunity to comment on this process.

Stevenson, Todd A.

*Fireworks
ANPR 28*

From: SJ [littleczr@yahoo.com]
Sent: Sunday, September 10, 2006 8:31 PM
To: Stevenson, Todd A.
Subject: Fireworks ANPR

On behalf of myself and others in the fireworks industry, who have only recently been made aware of CPSCs proposal, I would like to request an extension to the deadline for comments. I feel that an additional 30 days would give those of us in the industry enough time to develop beneficial suggestions for CPSC to consider. Thank you for your consideration in this matter. On behalf of the membership of the NFA, Robert Blake Vice President, National Fireworks Association



Fireworks
ANPR
39

Pyrotechnics Guild International, Inc.

TOM HANDEL
First Vice-President

September 10, 2006

Dear Sirs,

I am writing on behalf of the Board of Directors of the Pyrotechnics Guild International, Inc. (PGI) to respectfully request an extension to the public comment period concerning the CPSC's Advanced Notice of Proposed Rulemaking on proposed amendments to Fireworks Safety Standards in CFR 16 Parts 1500 and 1507. This comment period is presently scheduled to expire Monday September 11th, 2006.

The PGI is the largest hobbyist based pyrotechnics organization in the US and consists of some 3,800 members from all over the world. The current U.S. membership alone is more than 3,000. As you may well imagine, a coordination of a consensus opinion based on member input is not an easily or quickly obtained goal. We would be grateful for any deadline relief you can offer us in order that we may provide more comprehensive and useful input to the rulemaking process.

In the interim, I am providing below that which we presently have assembled as our basic comments.

- The Commission is considering whether there may be a need to update and strengthen its regulation of fireworks devices.

Comment:

The climate which exists between the Fireworks Hobby/Industry and the CPSC notwithstanding, the aim and the stated goals of the PGI have always been to provide our members and members of the general public with whatever training, advice and/or rules are required to encourage and maintain the utmost in safety concerning the acquisition, storage, transportation, handling and use of pyrotechnic materials.

In keeping with these goals, the PGI has developed and maintained what is arguably the best and most comprehensive Display Operator Certification Program available anywhere. This program is accepted in many states as

proof of competency and as an acceptable equivalent for obtaining state licensure as well.

Members of the PGI are instrumental in the drafting and in maintaining National Fire Protection Association Code pertaining to fireworks found in NFPA 1123, NFPA 1124 and NFPA 1126. These codes are fundamental to the fireworks industry, the hobbyist and regulatory and enforcement entities when it comes to ensuring safety in fireworks displays, stage/indoor displays, handling, storage use and disposal.

PGI has always been committed to these goals and in that respect we are in agreement with the CPSC on safety issues pertaining to our hobbyists and the public alike. The standards currently in place for consumer fireworks testing and approval, specifically testing standards developed by the American Fireworks Standards Laboratory in Bethesda, MD, are acceptable to the PGI. These standards, based on original CPSC standards were even made more stringent than the CPSC had originally requested.

Although we do feel the standards developed by the AFSL should be adopted, we do not feel that an award to a single laboratory is acceptable, fair to commerce or conducive to the integrity of the program itself. Rather, we would suggest that this testing procedure be administered by any and all such laboratory facilities or manufacturer's facilities equipped and deemed competent to administer tests and verify the results.

- The Commission is soliciting written comments concerning the risks of injury associated with fireworks that do not comply with the current fireworks device regulations, the regulatory options discussed in this notice, other possible ways to address these risks, and the economic impacts of the various regulatory alternatives.

Comment:

The PGI agrees that the introduction of devices which do not meet current standards into the marketplace should not be allowed. However, if there are such devices in the marketplace, it shows a lack of rigor or capacity in the testing and identification of these products during the quality and safety assurance stages of product introduction for which the CPSC has been responsible.

This would be a powerful argument to allow and enlist other qualified laboratory and testing facilities to join with the AFSL to handle the estimated 250+ million tons of product used in the US each year.

The Testing Standards, per AFSL Specification, if adhered to, would diminish if not altogether eliminate this deficiency and render the basic question moot for all intents and purposes.

Should any such devices appear on the marketplace, bypassing the testing/certification process, they by definition would be illegally manufactured and prohibited items and not regular "consumer products." These instances would continue to be an enforcement issue within the purview of the CPSC. With a broader base of testing facilities involved, however, the number of such instances should decline, and the enforcement burden on the Commission should be correspondingly diminished.

- The Commission also invites interested persons to submit an existing standard, or a statement of intent to modify or develop a voluntary standard, to address the risk.

Comment:

We embrace self-imposed safety standards already in place in both our hobby and in the industry at large and will do everything we can to teach people to follow these standards.

If further regulations are to be considered, we would request that they be mutually derived in a collaborative process between the regulatory agency and the regulated industry.

Thank you for the opportunity to provide these preliminary comments. We would be grateful for your favorable consideration of an extension to the comment period in order that we may provide further, more comprehensive and useful input.

Respectfully,

/s/

Thomas H. Handel

PGI Board of Directors

Bill Bahr, President
Tom Handel, Vice President
John Steinberg, 2nd Vice President
Kurt Medlin, Publications Vice President
Keith Midura, Secretary-Treasurer

*Fireworks
ANPR 30*

**BEFORE THE
U.S. CONSUMER PRODUCT SAFETY COMMISSION**

**AMENDMENT TO FIREWORKS SAFETY STANDARDS
ADVANCE NOTICE OF PROPOSED RULEMAKING
REQUEST FOR COMMENTS AND INFORMATION**

**COMMENTS OF THE
AMERICAN PYROTECHNICS ASSOCIATION**

September 11, 2006

Julie L. Heckman
Executive Director
American Pyrotechnics Association
7910 Woodmont Avenue
Suite 1220
Bethesda, Maryland 20814

INTRODUCTION

By Federal Register Notice dated July 12, 2006, the CPSC announced an Advance Notice of Proposed Rulemaking on whether to update and strengthen its firework regulations. 71 Fed Reg. 39249 (2006). The Notice requested comments on the risks of injury associated with fireworks that do not comply with the current fireworks device regulations, comments on several options outlined further in the Notice and comments on other ways to address these risks, including tendering of existing standards such as the AFSL Standards. Id. Comments are due on or before September 11, 2006.

COMMENTOR

The American Pyrotechnics Association is the trade association of the fireworks industry. Its members include companies in the consumer, display and proximate pyrotechnics sectors of the industry. In the consumer fireworks sector, its members include U.S. importers and distributors of consumer fireworks, foreign manufacturers and exporters of consumer fireworks, various suppliers to the industry including carriers, brokers, transportation intermediaries, insurers, banking institutions, advertising specialty companies, etc. The APA has regularly appeared before the CPSC in every rulemaking involving consumer fireworks since the original rulemaking in 1976, which culminated in the promulgation of Part 1507. The APA appreciates this opportunity to submit comments in this proceeding.

POSITION OF COMMENTOR

At the out set, the APA wishes to challenge the CPSC with regard to its statement that, “during the past few years, there has been an increase in the estimated number of fireworks-related injuries”. The fireworks industry has experienced unprecedented growth, specifically during the past 5 years following the horrific events of September 11, 2001. Consumer fireworks useage has doubled during the past five (5) years alone and when one factors in the estimated number of injuries vs. consumption, the fireworks-related injury rate has never been lower in the 29 year history of CPSC regulation. Nonetheless, the APA is a strong supporter of continuing to do all that it can do to further reduce the rate of injuries associated with consumer fireworks, like commenting on this ANPR, and especially in promoting safety tips to consumers and reaching out to local officials, media and the public with regard to the importance of adhering to instructions for use.

The CPSC proposes four alternatives to reduce the identified risks associated with fireworks devices. 71 Fed. Reg. at 39250. The APA supports all four of the alternatives.

First, the CPSC proposes issuing a rule requiring mandatory testing of fireworks devices to the FHSA regulations currently in place (16 CFR Part 1507 and Part 1500.17 et seq). The APA supports this proposal. It would note that the APA already supports testing of

fireworks before they are shipped to the U.S. and/or when they arrive in the U.S. APA 87-1, Introduction at 1, and Testing Program at Appendix B. APA would also note such certification is also required by revised NFPA 1124, Section 6.2.7.1. APA would highlight that its members use many different testing companies and that it would be a restrictive practice to limit the testing to one testing company.

Second, the CPSC proposes issuing a rule requiring additional firework device requirements. The APA would note that both the APA 87-1 and the AFSL Standards are more detailed and cover more fireworks devices than Parts 1507 and 1500.

Third, the CPSC raises the issue of relying upon a tendered standard pursuant to 15 U.S.C. 1262(f)(6). The APA supports the CPSC relying upon APA 87-1 and/or the AFSL Standards and fully enforcing those standards. APA would note that APA 87-1 is already federal regulation by dint of incorporation in the PHMSA regulations at 49 CFR Part 173.57(j)(1).

Fourth, the CPSC raises the issue of taking enforcement action under Section 15 of the FHSA. The APA supports enforcement of the current FHSA standards and any relied upon standards under Section 15 of the FHSA.

CONCLUSION

Recognizing that we are at the beginning of a rulemaking, and these concepts will be fleshed out in the rulemaking process, APA reserves the right to submit additional comments later on. However, at this juncture, the APA fully supports the Advance Notice of Proposed Rulemaking.

Respectfully submitted,

American Pyrotechnics Association

Julie L. Heckman
Executive Director

Stevenson, Todd A.

From: Julie Heckman [jheckman@americanpyro.com]
Sent: Friday, September 08, 2006 11:31 PM
To: Stevenson, Todd A.
Cc: Dhbakerlaw@aol.com
Subject: Fireworks - ANPR
Attachments: APAANPRComments.doc

Attached please find the comments of the American Pyrotechnics Association (APA) regarding the Fireworks-ANPR published on July 12, 2006 in the Federal Register.

If you have any questions, please contact me via cell phone during the next 9 days as I will be travelling for APA's annual convention at 240-401-4513. Otherwise I can be reached at the APA office, 301-907-8181.

Yours truly,
Julie L. Heckman
Executive Director
American Pyrotechnics Association
301-907-8181
jheckman@americanpyro.com

9/11/2006

Stevenson, Todd A.

From: Joe Martin [fireworkss@bellsouth.net]
Sent: Monday, September 11, 2006 5:17 PM
To: Stevenson, Todd A.
Subject: FIREWORKS ANRP

To Whom it may concern:

I would respectfully like to make the following comments on the proposed Anrp in reference to fireworks. I would like to see the Cpsc take random samples of fireworks that would reflect a more realistic representation of items that conform to CPSC standards instead of " catering to AFSL" testing procedures. Why not test those products like all others.

The CPSC should consider the number of pieces light vs. pounds of fireworks imported to reflect a more realistic percentage of incidents. If you take this into account I am sure you will see the percentage of accidents would be drastically reduced.

Your records indicate that as an industry we have gone from 70% failure to 70% compliance in just 10 years, I think that is remarkable job of an industry policing itself and showing that we are very safety orientated.

I would also request an extension of time so that these suggestions can be studied. Your numbers have shown accidents have declined while usage has dramatically increase therefore the measures that are in place now are more than adequate according to your figures

In conclusion I would like to see better reporting for hospitals that truly reflect Fireworks accidents not Firework related accidents.

Respectfully,
Joe Martin

Stevenson, Todd A.

32

From: Jared Hicks [jaredhi@hotmail.com]
Sent: Monday, September 11, 2006 4:43 PM
To: Stevenson, Todd A.
Subject: FIREWORKS ANPR

To whom it may concern,

I am writing to express my displeasure with the possibility of this Fireworks ANPR being enacted. According to statistics provided by the CPSC, the use of fireworks has risen from 120.3 million pounds in 1996 to 283.2 million pounds in 2006. Fireworks (by poundage) have more than doubled in the United States in that period of time. Fireworks injuries, however, have gone down by almost half in that time as well. In 1996 there were 6.1 fireworks related injuries per 100,000 pounds of fireworks. In 2006 there were 3.8 fireworks related injuries per 100,000 pounds of fireworks. That is a very sharp decrease of injuries in those ten years, especially compared to the over doubling of fireworks quantities in the United States in that time.

Changes like this would benefit certain organizations that might not have the best interests of the fireworks industry. These organizations are run by only a handful of board members who represent a very small amount of the fireworks companies in the United States. I question whether they are worried about strengthening their organization more than helping out the fireworks industry as a whole. Therefore, I strongly urge the CPSC to not allow this fireworks ANPR to pass.

Thank you for your time,

Jared Hicks

Stevenson, Todd A.

From: Mark Bolinger [markcbolinger@hotmail.com]
Sent: Monday, September 11, 2006 4:36 PM
To: Stevenson, Todd A.
Subject: FIREWORKS ANPR

To whom it may concern,

I am writing to express my displeasure with the possibility of this Fireworks ANPR being enacted. According to statistics provided by the CPSC, the use of fireworks has risen from 120.3 million pounds in 1996 to 283.2 million pounds in 2006. Fireworks (by poundage) have more than doubled in the United States in that period of time. Fireworks injuries, however, have gone down by almost half in that time as well. In 1996 there were 6.1 fireworks related injuries per 100,000 pounds of fireworks. In 2006 there were 3.8 fireworks related injuries per 100,000 pounds of fireworks. That is a very sharp decrease of injuries in those ten years, especially compared to the over doubling of fireworks quantities in the United States in that time.

Changes like this would benefit certain organizations that might not have the best interests of the fireworks industry. These organizations are run by only a handful of board members who represent a very small amount of the fireworks companies in the United States. I question whether they are worried about strengthening their organization more than helping out the fireworks industry as a whole. Therefore, I strongly urge the CPSC to not allow this fireworks ANPR to pass.

Thank you for your time,

Mark C. Bolinger

Stevenson, Todd A.

From: Brian Hamilton [brian@jakesfireworks.net]
Sent: Monday, September 11, 2006 4:27 PM
To: Stevenson, Todd A.
Subject: Fireworks ANPR

To whom it may concern,

I am writing to express my displeasure with the possibility of this Fireworks ANPR being enacted. According to statistics provided by the CPSC, the use of fireworks has risen from 120.3 million pounds in 1996 to 283.2 million pounds in 2006. Fireworks (by poundage) have more than doubled in the United States in that period of time. Fireworks injuries, however, have gone down by almost half in that time as well. In 1996 there were 6.1 fireworks related injuries per 100,000 pounds of fireworks. In 2006 there were 3.8 fireworks related injuries per 100,000 pounds of fireworks. That is a very sharp decrease of injuries in those ten years, especially compared to the over doubling of fireworks quantities in the United States in that time.

Changes like this would benefit certain organizations that might not have the best interests of the fireworks industry. These organizations are run by only a handful of board members who represent a very small amount of the fireworks companies in the United States. I question whether they are worried about strengthening their organization more than helping out the fireworks industry as a whole. Therefore, I strongly urge the CPSC to not allow this fireworks ANPR to pass.

Thank you for your time,

Brian Hamilton

Stevenson, Todd A.

From: SkyKingMel@aol.com
Sent: Monday, September 11, 2006 4:13 PM
To: Stevenson, Todd A.
Subject: CPSC ANPR

I would respectfully like to make the following comments on the proposed Anrp in reference to fireworks. I would like to see the Cpsc take random samples of fireworks that would reflect a more realistic representation of items that conform to CPSC standards instead of "catering to AFSL" testing procedures. Why not test those products like all others.

The CPSC should consider the number of pieces light vs. pounds of fireworks imported to reflect a more realistic percentage of incidents. If you take this into account I am sure you will see the percentage of accidents would be drastically reduced.

Your records indicate that as an industry we have gone from 70% failure to 70% compliance in just 10 years, I think that is remarkable job of an industry policing itself and showing that we are very safety orientated.

I would also request an extension of time so that these suggestions can be studied. Your numbers have shown accidents have declined while usage has dramatically increase therefore the measures that are in place now are more than adequate according to your figures

In conclusion I would like to see better reporting for hospitals that truly reflect Fireworks accidents not Firework related accidents.

THANK YOU,
MELISSA CRAWFORD

Stevenson, Todd A.

From: Stifler808247@aol.com
Sent: Monday, September 11, 2006 6:26 PM
To: Stevenson, Todd A.
Subject: Fireworks ANRP

To whom it may concern,

I am writing this letter in an attempt to petition the CPSC to not adopt the safety testing standards of the AFSL . It has been brought to my attention that their testing may not be reflective of the appropriate way to test the proper use of fireworks, thus causing false results. Over the past number of years the CPSC has done an adequate job of testing. The number of accident has reduced drastically each year since the CPSC'S insepction, and are reflective of its testing practices working . I would like to see maybe an exctention on this issue so that it could possible be discussed more between the industry and the CPSC before a final descission is made . This matter is very important to those of us that enjoy fireworks, but not only enjoy them but enjoy practicing using them safely . thank you for your time in this matter best regards,

Aaron Pfeifer

Stevenson, Todd A.

From: cyozwiak@netzero.net

Sent: Monday, September 11, 2006 8:08 PM

To: Stevenson, Todd A.

To Whom It May Concern:

I would respectfully like to make the following comments on the proposed Anrp in reference to fireworks. I would like to see the Cpsc take random samples of fireworks that would reflect a more realistic representation of items that conform to CPSC standards instead of "catering to AFSL" testing procedures. Why not test those products like all others. The CPSC should consider the number of pieces light vs. pounds of fireworks imported to reflect a more realistic percentage of incidents. If you take this into account I am sure you will see the percentage of accidents would be drastically reduced. Your records indicate that as an industry we have gone from 70% failure to 70% compliance in just 10 years, I think that is remarkable job of an industry policing itself and showing that we are very safety orientated. I would also request an extension of time so that these suggestions can be studied. Your numbers have shown accidents have declined while usage has dramatically increase therefore the measures that are in place now are more than adequate according to your figures. In conclusion I would like to see better reporting for hospitals that truly reflect Fireworks accidents not Firework related accidents.

Respectfully,
Chris Yozwiak

9/12/2006

Stevenson, Todd A.

38

From: Rachelle Spellman [rachel_spellman@hotmail.com]
Sent: Monday, September 11, 2006 11:13 PM
To: Stevenson, Todd A.
Subject: FIREWORKS ANPR

I would like to see the Cpsc take random samples of fireworks that would reflect a more realistic representation of items that conform to CPSC standards instead of " catering to AFSL" testing procedures. Why not test those products like we test all others. The CPSC should consider the number of pieces light vs. pounds of fireworks imported to reflect a more realistic percentage of incidents. If you take this into account I am sure you will see the percentage of accidents would be drastically reduced. In Looking over your records I found that you indicate that as an industry we have gone from 70% failure to 70% compliance in just 10 years, I think that is a remarkable job of an industry policing itself and showing that we are very safety orientated.

I would also request a time extension so that these suggestions can be studied. Your numbers have shown accidents have declined while usage has dramatically increase therefore the measures that are in place now are more than adequate according to your figures. In conclusion I would like to see better reporting for hospitals that truly reflect Fireworks accidents not Firework related accidents. By better reporting from hospitals it would make the statistics a lot more accurate.

Respectfully,
Rachelle Spellman

September 11, 2006

Office of the Secretary
Consumer Product Safety Commission
Room 502
4330 East-West Highway
Bethesda, Maryland 20814

RE: Fireworks ANPR

To Whom It May Concern:

I support the CPSC's intent of reducing fireworks risk and improving fireworks safety.

I am concerned that the justification for changing current standards or testing methods is not fully warranted by the estimated increase in fireworks injuries.

The ANPR that was published in the July 12, 2006 Federal Register indicates there has been an increase in estimated injuries from 2002 to 2005. Additionally, the ANPR indicates that there were four deaths associated with fireworks in 2005. I am concerned that these published statistics do not accurately reflect the status of fireworks injuries, especially when compared to the increase in fireworks consumption. That is, do the statistics separate injuries due to professional fireworks versus injuries due to consumer fireworks? Also, do the statistics separate injuries by type of device? I believe that statistics that have more 'granularity' will be more useful in helping the CPSC determine the true nature of the risk of the risk to consumers.

If a consumer obtains a professional fireworks device (or an illegal explosive device) and injures or kills his or her self, or others, that data point should not be included in Consumer Fireworks statistics. A professional or illegal explosive device is just that, and separate statistics should be maintained.

I am also concerned that the statistics that the CPSC utilizes do not have the necessary granularity to determine if the consumer was properly utilizing fireworks devices or if they were intentionally or unintentionally misusing the device.

I suggest that consumer fireworks injuries can be sufficiently mitigated by expending resources on safety education, not by revisiting the current status of device testing. I believe it is also important to look at the number of injuries per unit weight of fireworks used, not just the raw number of injuries. It is to be expected that an increase in the unit weight of fireworks used will lead to an increase in the raw number of injuries.

Lastly, I believe it would be in the Commission's and the public's best interest, to extend the time available for comment on this issue. This will allow for additional research and interpretation of data, and will allow for an explanation of the current data being used to justify this proposed change.

Sincerely,



Andrew Webb
499 River Rd
Otsego, Michigan 49078

40

Stevenson, Todd A.

From: Jim Ramsey [jimvtx@gmail.com]
Sent: Monday, September 11, 2006 5:20 PM
To: Stevenson, Todd A.
Subject: FIREWORKS ANPR

To whom it may concern,

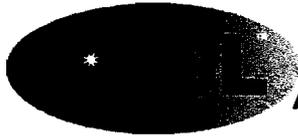
I am writing to express my displeasure with the possibility of this Fireworks ANPR being enacted. According to statistics provided by the CPSC, the use of fireworks has risen from 120.3 million pounds in 1996 to 283.2 million pounds in 2006. Fireworks (by poundage) have more than doubled in the United States in that period of time. Fireworks injuries, however, have gone down by almost half in that time as well. In 1996 there were 6.1 fireworks related injuries per 100,000 pounds of fireworks. In 2006 there were 3.8 fireworks related injuries per 100,000 pounds of fireworks. That is a very sharp decrease of injuries in those ten years, especially compared to the over doubling of fireworks quantities in the United States in that time.

Changes like this would benefit certain organizations that might not have the best interests of the fireworks industry. These organizations are run by only a handful of board members who represent a very small amount of the fireworks companies in the United States. I question whether they are worried about strengthening their organization more than helping out the fireworks industry as a whole. Therefore, I strongly urge the CPSC to not allow this fireworks ANPR to pass.

Thank you for your time,

Jim Ramsey

9/12/2006



American Fireworks Standards Laboratory

**7316 Wisconsin Avenue, Suite 214
Bethesda, Maryland USA 20814
Telephone: 301/907-9115
Facsimile: 301/907-9117
Email: afslhq@afsl.org**

September 11, 2006

Mr. Todd Stevenson
Office of the Secretary
U.S. Consumer Product Safety Commission
4330 East West Highway
Bethesda, MD 20814-4408

Re: Comments on Fireworks ANPR

Dear Mr. Stevenson:

The American Fireworks Standards Laboratory (“AFSL”) is pleased to submit comments to the Consumer Product Safety Commission (“CPSC”) on the Advance Notice of Proposed Rulemaking (“ANPR”) issued by the Commission on July 11, 2006 (71 Fed. Reg. 39249) announcing the CPSC’s intent to review and possibly revise its existing fireworks regulations located at 16 C.F.R. §§ 1500 and 1507.

AFSL is a nonprofit corporation organized by members of the fireworks industry to establish voluntary safety standards for the design and performance of consumer fireworks and to certify fireworks that meet those standards. Since 1990, AFSL’s voluntary standards development and certification activities have effectively supplemented and strengthened the CPSC’s efforts to protect consumer safety.¹ Close collaboration between AFSL and the CPSC has benefited both entities, along with consumers, by facilitating the efficient targeting of resources to address high priority fireworks safety issues. As a result, most consumer fireworks sold in the U.S. today meet or exceed the stringent regulations and safety standards of both the CPSC and AFSL.

Nevertheless, the substantial progress made by the CPSC and AFSL to improve fireworks safety is incomplete. In particular, among fireworks companies that do not participate in AFSL’s voluntary testing and certification program, the rate of noncompliance with the CPSC’s mandatory safety regulations remains at an unacceptable level. As discussed in more detail

¹ Descriptions of AFSL, its voluntary standards, and its testing and certification program are provided in the enclosed Appendices.

below, we believe that this situation can be addressed effectively by the CPSC through an integrated, three-part strategy that combines:

- mandatory testing by fireworks companies to certify that their consumer products comply with the CPSC's existing fireworks regulations;
- formal reliance by the CPSC on the AFSL's voluntary standards; and
- application of the reporting requirements contained in Section 15 of the Consumer Product Safety Act ("CPSA"), 15 U.S.C. § 2064, to failures to comply with the AFSL standards expressly relied upon by the CPSC.

As discussed in more detail below, we believe the combination of these steps, when implemented simultaneously, offers the best opportunity to maximize consumer safety.

CPSC and AFSL Progress Has Been Substantial But Incomplete

Working alongside one another, the CPSC and AFSL have made remarkable strides in improving the quality and safety of consumer fireworks. According to figures provided by the CPSC, at the time the CPSC implemented its own testing of imported fireworks in the late 1980s, approximately 76 percent of all tested shipments failed to meet the CPSC's fireworks regulations. As recently as 1994 – AFSL's first year of testing fireworks in China – CPSC data indicate that the rate of noncompliance with the CPSC regulations was still very high at 73 percent of tested shipments.

Ten years later, however, the overall noncompliance rate had shrunk dramatically to 28 percent of tested shipments, with much of the improvement attributable to AFSL's efforts to develop and promote its more detailed and stringent voluntary standards and certification program.² In 2005, only 17 percent of AFSL-certified shipments inspected by the CPSC were identified by the CPSC as not being in full compliance with the CPSC regulations. In contrast, nearly half of the inspected shipments that lacked AFSL certification failed to comply with the CPSC regulations. The impact of AFSL's standards and testing is even greater when comparing actionable violations of the CPSC's regulations – last year, the CPSC found only five percent of AFSL-certified shipments it inspected had an actionable violation of CPSC regulations, while 36 percent of the inspected shipments not certified by AFSL had actionable violations.³

AFSL's own test data reflect similarly dramatic improvements in the compliance level for the overwhelming majority of fireworks manufactured in China. In 1994, only 64 percent of all

² As part of its efforts to promote greater understanding and acceptance of its program within the fireworks industry, AFSL has been very active in reaching out to the Chinese fireworks manufacturers that produce the vast majority of the fireworks sold in the United States. Among other things, AFSL has translated its voluntary standards into Chinese and routinely provides continuing education programs to Chinese manufacturers about compliance with AFSL's standards.

³ This information was previously provided to AFSL by the CPSC's fireworks compliance staff.

Chinese fireworks tested by AFSL complied with both the CPSC's regulations and the AFSL's more stringent voluntary standards. By 2005, the rate of compliance with both sets of standards had risen to 90 percent of shipments by AFSL program participants. Graphs illustrating the growth of AFSL's certification program and the positive impact it has had on compliance rates are provided at Appendix 1.⁴

Similarly, the CPSC's data on injuries due to fireworks demonstrate a corresponding trend. Since 1994, the rate of fireworks-related injuries has declined by about a quarter from approximately 4.8 to 3.6 injuries per 100,000 people in 2005. At the same time, according to statistics tracked by the American Pyrotechnics Association ("APA"), annual consumption of fireworks has nearly tripled from 1994 levels.⁵ Thus, after factoring in consumers' increased exposure to fireworks in recent years (due to increased fireworks consumption), the actual risk of injury resulting from a given level of exposure to fireworks has decreased by a dramatic 75 percent over the past 11 years. Again, we believe that AFSL's voluntary standards and certification program have been instrumental in achieving that reduction in the injury rate.⁶

Nevertheless, despite the tremendous progress made to date, there still exists a persistent level of industry non-compliance with the CPSC regulations. As noted in the ANPR, after years of steady improvement, the overall rate of compliance with the CPSC regulations observed by the CPSC in its inspections of fireworks shipments leveled off between 2002 and 2004 at around 72 percent, and fell to 59 percent in 2005. As discussed above, these statistics almost certainly understate the actual compliance rate of the industry across all fireworks types, due to the manner in which the CPSC targets fireworks shipment lots for inspection (often targeting fireworks types with a greater chance of non-compliance).

Significantly, the compliance rate observed by the CPSC for products tested by AFSL has been consistently higher, averaging 81 percent from 2003 to 2005. This fact highlights the effectiveness of AFSL's certification program and strongly suggests that measures to improve the CPSC compliance rate will be most effective if geared toward promoting independent testing and certification of compliance with either the CPSC regulations or the AFSL standards.

⁴ The differences in the compliance rates measured by the CPSC and AFSL are attributable to differences in the datasets used to calculate the rates. Notably, the CPSC data is limited to the relatively small sample of fireworks shipments it tests (typically fewer than 400 lots per year). Moreover, many of the shipment lots selected for CPSC testing are chosen based on the prior compliance records of similar products (as a means of conserving CPSC resources while targeting higher risk products). On the other hand, AFSL's compliance data includes all types of fireworks and all of the shipment lots (nearly 30,000 per year) tested by AFSL. Thus, because the CPSC data does not reflect a representative sample of fireworks tested by AFSL, caution should be exercised in interpreting the compliance rates derived from the CPSC data.

⁵ The APA also estimates that the annual consumption-based rate of fireworks-related injuries has declined 90 percent since 1976 from 38 to 3.8 injuries per 100,000 pounds of fireworks. See Appendix 1 for more details.

⁶ As noted in the CPSC's 2005 Fireworks Annual Report, the standard errors associated with the CPSC's estimated injury rates make it difficult to compare the estimated injury rates across a period of years in order to identify trends in the data. However, when the substantial increase in fireworks consumption over the past several years is factored into the analysis, the downward trend in the risk of injury becomes statistically significant.

CPSC Action is Needed to Improve Fireworks Safety

Although the history of fireworks safety over the past 30 years is for the most part a tremendous success story, additional steps are needed to extend and solidify many of the safety standards and practices embraced now by a majority of industry participants. As discussed below, we believe the CPSC should pursue a comprehensive strategy that combines (a) mandatory certification by fireworks companies to the CPSC's existing fireworks regulations, (b) CPSC reliance upon AFSL's voluntary standards, and (c) mandatory reporting to the CPSC of noncompliance with specific AFSL standards expressly relied upon by the CPSC.

Each element of this integrated approach will help to achieve the goal of promoting greater fireworks safety, as follows:

- The proposed mandatory certification to the CPSC's regulations will promote greater compliance with the regulations, particularly among fireworks companies that do not currently participate in AFSL's certification program;
- CPSC reliance upon AFSL's voluntary standards will, in effect, elevate the minimum compliance threshold for some companies when combined with the reporting requirements in CPSA § 15(b); and
- The application of the CPSA § 15(b) reporting requirements to fireworks that fail to meet one or more of the relied upon AFSL standards will provide the CPSC with an effective tool to evaluate and hold accountable companies that fail to meet their fireworks safety obligations.

We believe this approach holds the best chance of further and materially lowering the noncompliance rate while simultaneously raising the safety standards applied to many fireworks companies. However, the ultimate success of this strategy depends heavily upon the implementation of all three elements simultaneously. Each of the three elements is described below.

Mandatory Certification is Needed to Address Limited, But Persistent, Noncompliance. The effectiveness of the CPSC's existing fireworks regulations is hampered by the absence of an efficient enforcement mechanism such as mandatory testing and certification. We believe the CPSC and the public would benefit significantly from the adoption of a new rule, under Section 10(a) of the Federal Hazardous Substances Act ("FHSA"), requiring all fireworks sold in the U.S. to be independently tested and certified for their compliance with the CPSC's existing fireworks regulations. Independent testing and certification of all consumer fireworks offers both greater certainty of compliance for companies and improved targeting of inspections and enforcement actions for the CPSC and U.S. Customs.

Please understand that we are not proposing a new CPSC certification program to replace AFSL's own certification program. Instead, we see both certification programs operating in concert – with the more stringent AFSL certification program enhancing and complementing the

CPSC's certification program. At the same time, due to AFSL's complete incorporation of the CPSC's regulations into its own voluntary standards, we would expect AFSL certification to be accepted by the CPSC in lieu of the proposed mandatory CPSC certification.

If this mandatory certification program is adopted by the CPSC with the proper internal controls and safeguards, we would expect markedly higher compliance rates from companies that are not currently participants in AFSL's program. In order to minimize the risk of fraud or inadequate service quality, we urge the Commission to set rigorous qualifications and procedures for any entities chosen to perform the necessary testing and certification services. We offer AFSL's own certification program as a model that the Commission may find helpful. Brief summaries of AFSL's testing and certification program are provided at Appendices 2 and 3.

Formal Reliance on AFSL's Voluntary Standards Would Enhance the CPSC's Existing Fireworks Regulations. The CPSC's existing fireworks regulations have remained relatively unchanged since their adoption more than 30 years ago. Over the intervening years, as fireworks technologies, products and markets have evolved, the CPSC's regulations have not kept pace with the safety issues presented by products on the market. To address this gap, AFSL has developed its own voluntary safety standards that incorporate and supplement the CPSC's regulations. As a result, AFSL's voluntary standards provide more stringent and detailed requirements and a higher level of consumer safety than currently found under the CPSC regulations.⁷

Furthermore, AFSL's Standards Committee recently completed an exhaustive review of AFSL's voluntary standards in order to update them and to identify and eliminate standards that were no longer deemed necessary.⁸ A copy of the newly revised AFSL standards is provided for your review at Appendix 4.

We strongly urge the Commission to rely formally upon AFSL's voluntary standards under the virtually identical provisions of FHSA § 3(g)(2), 15 U.S.C. § 1262(g)(2), and CPSA § 9(b)(2), 15 U.S.C. § 2058(b)(2). By doing so, the Commission would effectively bolster its existing regulations, improve compliance and increase consumer safety.

Under FHSA § 3(g)(2) and CPSA §§ 7(b)(1) and 9(b)(2), the CPSC is required to defer to a voluntary standard rather than issue a mandatory, ruled-based standard when:

⁷ One example of this is the inclusion in AFSL's voluntary standards of detailed provisions pertaining to the design and performance of multiple-tube aerial fireworks devices. The CPSC has effectively relied upon these AFSL standards in the absence of similarly detailed provisions in its own regulations. Other illustrative examples are provided in Appendix 5.

⁸ AFSL's Standards Committee is designed to facilitate participation in the standard-setting process by a broad cross-section of affected stakeholders while also drawing upon the deep knowledge of some of the leading technical experts in the field. The Standards Committee includes industry, government and consumer representatives, as well as representatives from the insurance industry and the fire services sector. Significantly, two representatives from the CPSC and one from the U.S. Department of Transportation also serve on AFSL's Standards Committee.

- the voluntary standard is likely to result in the elimination or adequate reduction of the risk of injury the CPSC seeks to address; and
- it is likely that there will be substantial compliance with the voluntary standard.

AFSL believes that the integrated approach proposed in this letter meets both of these tests required for CPSC reliance on a voluntary standard. Because AFSL's voluntary standards incorporate, and in many areas exceed, all of the requirements found in the existing CPSC fireworks regulations, CPSC reliance upon AFSL's voluntary standards can only enhance consumer safety protection. As described above, AFSL's successful track record in lowering the risk of injury and in promoting significantly higher compliance rates for products tested to the AFSL standards also provides strong and compelling evidence of the likely beneficial effect on consumer safety of CPSC reliance on the voluntary standards.

Furthermore, AFSL estimates that about 80 percent of the total annual volume of consumer fireworks imports are currently tested to AFSL's voluntary standards. When combined with the mandatory CPSA § 15(b) reporting requirements discussed below, CPSC reliance on AFSL's standards appears likely to cause more of the remaining twenty percent of imported fireworks to be tested to AFSL's standards.

Also, because consumer fireworks have historically been regulated by the CPSC under the Federal Hazardous Substances Act, we believe the Commission may need to reach a finding under CPSA § 30(d) that it is in the public interest to regulate the risk of injury posed by consumer fireworks in order to rely upon AFSL's voluntary standards under the CPSA. Given (a) the crucial role to be played by mandatory reporting in promoting industry adherence to the voluntary standards to be relied upon under this proposal, and (b) the absence of an adequate reporting requirement in the FHSA comparable to CPSA § 15(b), we believe the Commission can easily meet the public interest standard required by CPSA § 30(d).

Application of the CPSA Section 15 Reporting Requirements to AFSL's Standards Will Improve Compliance Accountability. Once the CPSC relies upon AFSL's voluntary standards under CPSA § 9(b)(2), we believe the Commission should apply the reporting requirements of CPSA § 15(b) (15 U.S.C. § 2064(b)) to those standards, as provided in 16 C.F.R. § 1115.5(b). CPSC reliance on AFSL's voluntary standards would, among other things, provide clearer parameters and incentives for fireworks companies that are not currently AFSL participants to certify their products to AFSL's voluntary standards. This will be particularly true if the companies are required to report the specific provisions of the AFSL standards that are not met, rather than just a general statement of noncompliance.

* * *

CPSC support of an industry-based, independent third party certification program as a means of obtaining compliance with its regulations has been and will continue to be essential to the success of the industry's efforts in this regard. Moreover, AFSL's ability to maintain standards addressing safety issues in the ever-changing fireworks industry; to objectively test

Mr. Todd Stevenson
September 11, 2006
Page 7

using independent, qualified personnel at the point of manufacture; and to act as a liaison between the CPSC and the industry, all serve to assist the CPSC effectively in its consumer safety role.

If the industry is to continue to succeed in addressing the safety of consumer fireworks, the CPSC must continue to demand full compliance with the fireworks regulations and thorough testing to verify that compliance. AFSL appreciates and supports the CPSC's efforts to enhance the safety of consumer fireworks through this rulemaking proceeding. If implemented in an integrated and simultaneous manner, we would expect our proposed approach to improve the level of product compliance, both quantitatively and qualitatively, while simultaneously strengthening the CPSC's ability to enforce the applicable regulations and safety standards.

We believe the Commission and consumers would benefit from even greater cooperation between AFSL and CPSC in their effort to promote fireworks safety. Together, our two organizations can continue to increase the safety of fireworks used by American consumers. AFSL greatly values the Commission's leadership and dedication to fireworks safety, and we stand ready to assist the CPSC in this area.

We thank you for your consideration of our comments.

Respectfully submitted,

A handwritten signature in black ink that reads "John D. Rogers" followed by a stylized flourish or initials.

John D. Rogers
Executive Director

cc: Christopher Smith, Esquire
Brett Crawford, Esquire

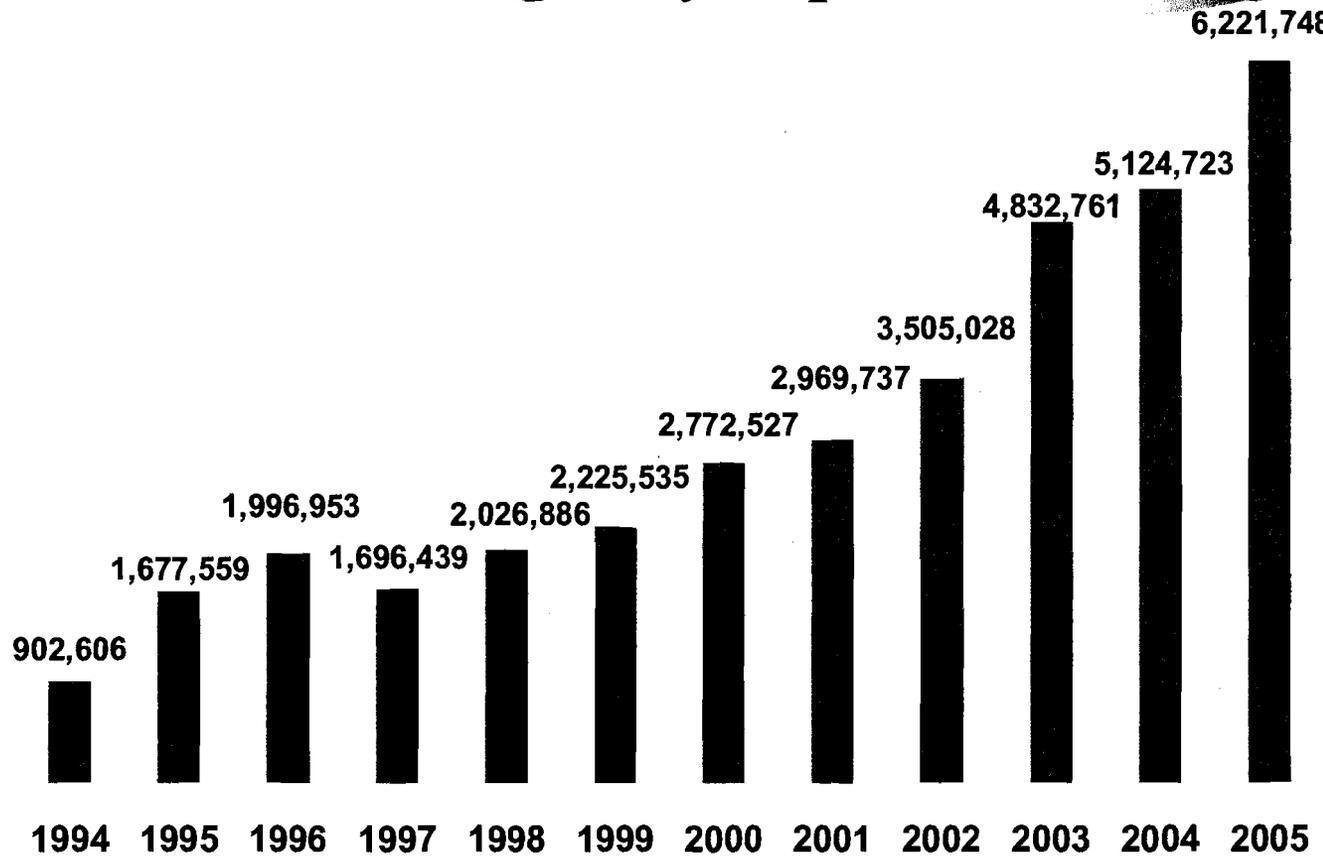
Enclosures

**Comments provided on September 11, 2006 by the
American Fireworks Standards Laboratory on the
Advance Notice of Proposed Rulemaking issued
by the CPSC on July 11, 2006**

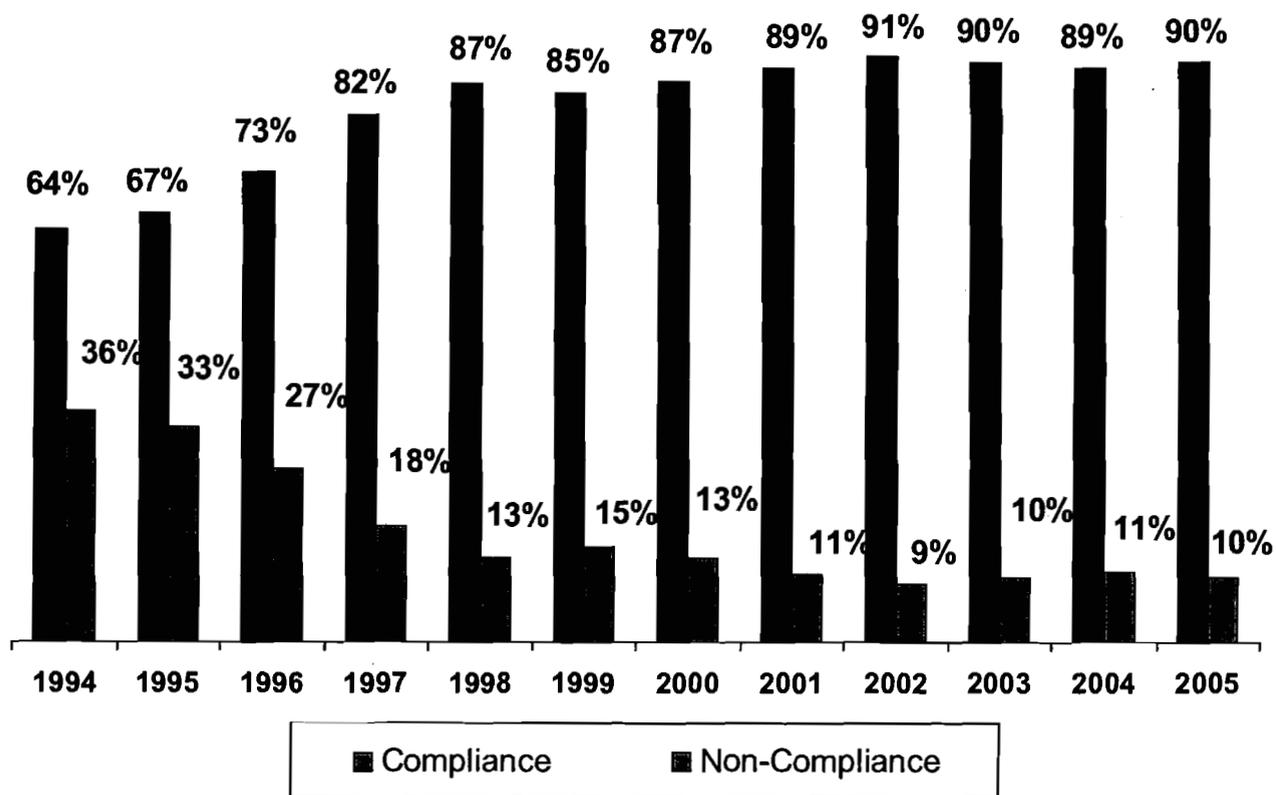
APPENDIX 1

CASES TESTED BY YEAR 1994-

Quality Improvement Program

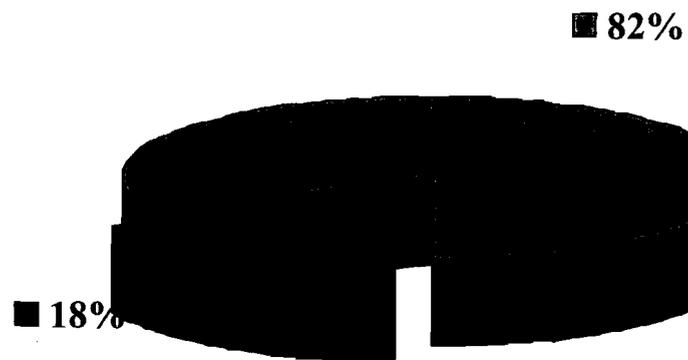


QIP Compliance Percentage By



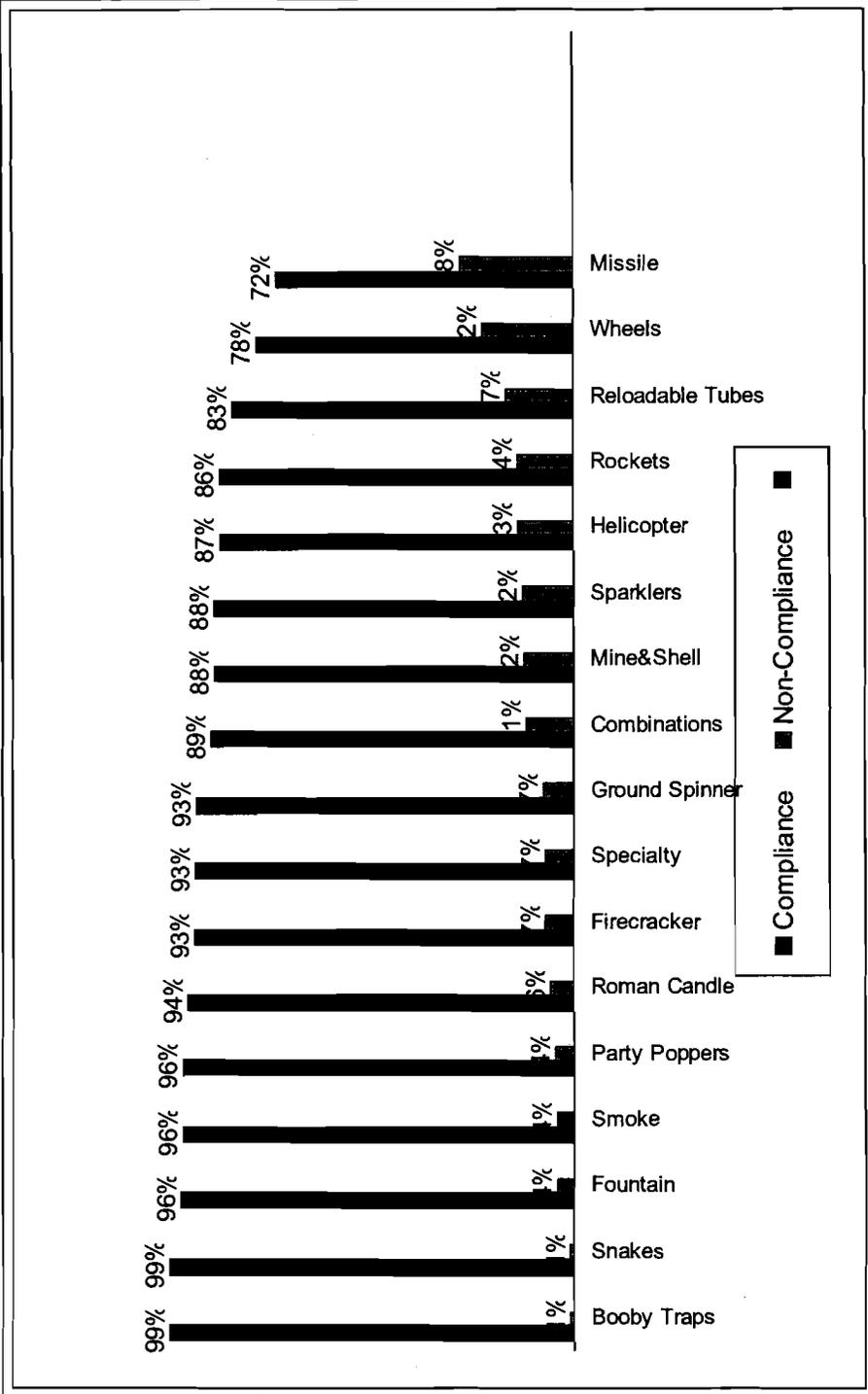
Regular and Assortment Testing

■ Regular ■ Assortment



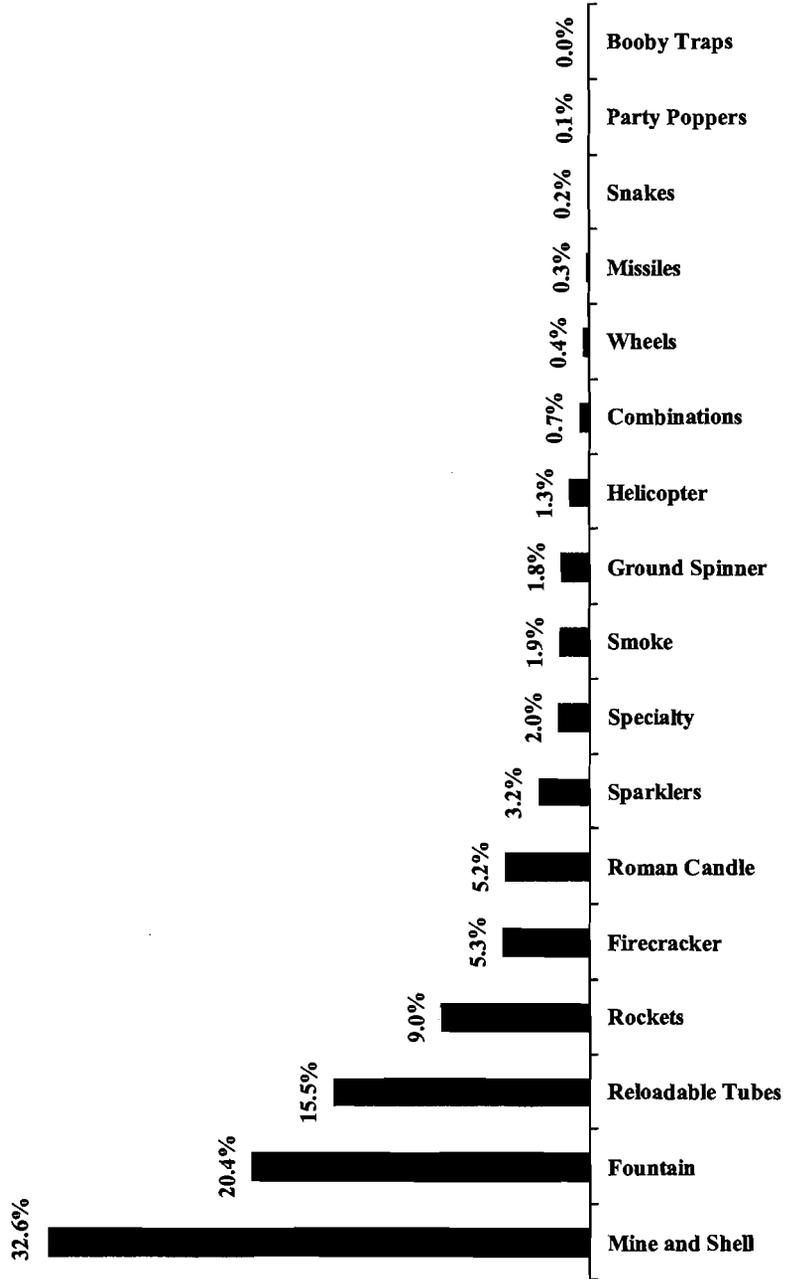
Grand Total Test Cases: 6,221,748
Regular Test Cases: 5,092,397
Assortment Test Cases: 1,129,351

Compliance Rate by Category for



Percentage Testing by Product Category

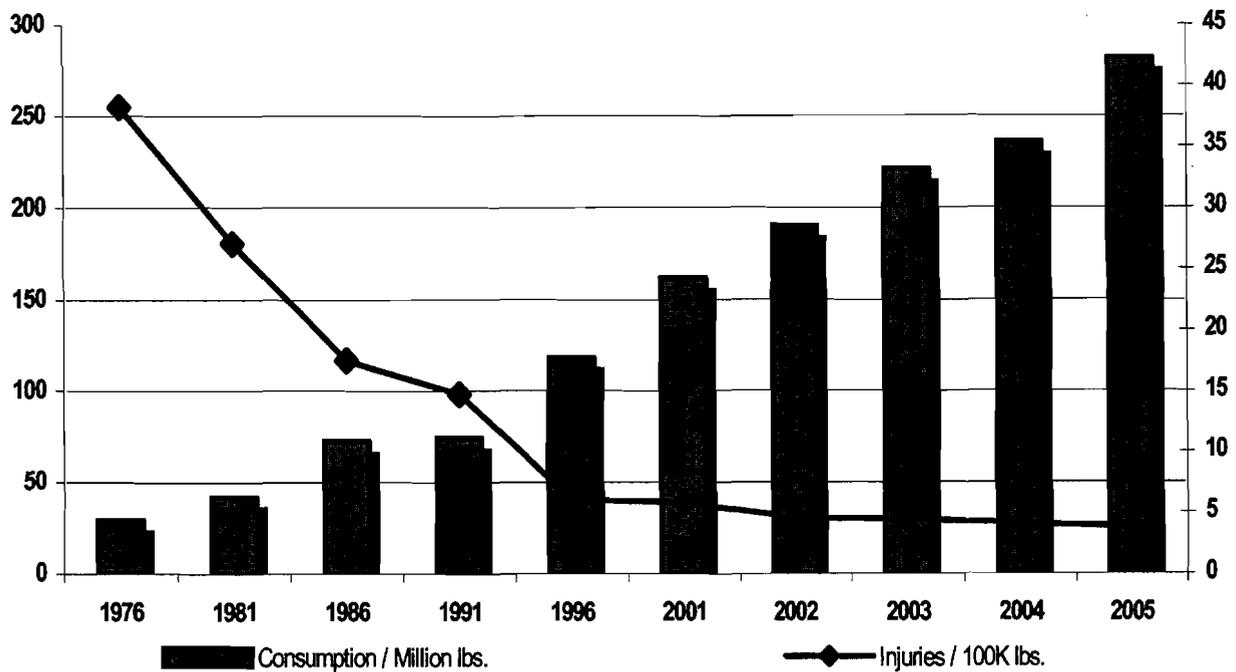
2005





FIREWORKS-RELATED INJURY RATES, 1976-2005

Consumption of fireworks in the United States has risen dramatically over the past two and a half decades, from 29 million pounds in 1976 to over 281.5 million pounds in 2005. While the industry has seen an 870.7% increase in fireworks consumption per million pounds, there has been a 90.1% decrease¹ in fireworks-related injuries per 100,000 pounds.



¹ 1976 fireworks-related injury rate was 38.3 per 100,000 pounds, compared to 2005 rate of 3.8 per 100,000 pounds.



Fireworks-Related Injury Rates, 1976-2005

Year	Fireworks Consumption, Millions of Pounds ¹	Estimated Fireworks-related Injuries ²	Injuries per 100,000 Pounds
1976	29.0	11,100	38.3
1977	32.2	8,300	25.8
1978	32.8	7,100	21.6
1979	36.0	8,100	22.5
1980	41.2	9,400	22.8
1981	42.1	11,400	27.1
1982	50.7	8,500	16.8
1983	51.9	8,200	15.8
1984	55.0	9,900	18.0
1985	63.6	10,300	16.2
1986	72.1	12,600	17.5
1987	72.8	9,000	12.4
1988	66.8	10,200	15.2
1989	80.2	9,700	12.1
1990	67.6	12,000	17.7
1991	73.7	10,900	14.7
1992	87.1	12,500	14.3
1993	101.9	12,000	11.7
1994	117.0	12,500	10.7
1995	115.0	10,900	9.4
1996	118.0	7,300	6.1
1997	132.9	8,300	6.2
1998	112.6	8,500	7.5
1999	156.9	8,500	5.4
2000	152.6	11,000	7.2
2001	161.6	9,500	5.8
2002	190.1	8,800	4.6
2003	220.8	9,700	4.4
2004	236.2	9,600	4.1
2005	281.5	10,800	3.8

¹ Summary of Trade and Tariff Information — Fireworks (TSUS Item 755.15), U.S. International Trade Commission, Washington, D.C.

² National Electronic Injury Surveillance System, U.S. Consumer Product Safety Commission, Washington, D.C.

Source: American Pyrotechnics Association