

John D. Rogers, Executive Director 7316 Wisconsin Ave., Ste 214 Bethesda, MD 20814 (301) 907-9115

## AFSL GENERAL MEMBERSHIP MEETING

Wednesday, October 4; 2:00 PM – 4:30 PM Manchester Grand Hyatt San Diego, CA

## AGENDA

I.	Remark from CPSC Acting Chairman Ann Marie Buerkle		
II.	Report from the Board of Directors Michael Ingram, President		
III.	Election of Directors John D. Rogers, Executive Director		
IV.	Financial Report		
V.	Update on CPSC Proposed Rulemaking Quin D. Dodd, General Counsel		
VI.	Break  Report on Consumer Fireworks Testing Program		
V 1.	A. Summary of AFSL Test Results		
VII.	Modifications to AFSL Standards		
VIII.	Election Results		
IX.	Closing Remarks Michael Ingram, President		

## AFSL – AN OVERVIEW

The American Fireworks Standards Laboratory (AFSL) is an independent, not-for-profit membership association organized in 1989 to improve the safety and compliance with mandatory and voluntary requirements for fireworks distributed in the U.S. marketplace. Participation in the AFSL program is voluntary, and is available to all U.S. importers and Hong Kong/China shippers that sign a participation agreement with AFSL. China factories, though technically not AFSL members, participate in the program by making available shipments of fireworks for evaluation and certification. AFSL currently has listed more than 800 factories in China that provide products that are tested and certified on behalf of U.S. importer participants. AFSL is funded through the payment of a quality improvement fee by U.S. importers for each case of fireworks imported under the program. Services provided include:

- Developing voluntary standards for both consumer and display fireworks that incorporate existing mandatory regulations of the Consumer Product Safety Commission (CPSC), U.S. Department of Transportation (DOT), Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF), and other appropriate voluntary standards;
- ❖ Conducting industry-wide training seminars for manufacturers, related industries, and industry associations in China and working directly with individual manufacturers to assure that the industry is fully aware of requirements that fireworks exported to the U.S. must meet;
- Performing on-site quality improvement and product evaluation reviews to determine if fireworks shipments comply with the appropriate mandatory regulations and voluntary standards. All product evaluations are conducted by an independent, world-renowned testing laboratory, Bureau Veritas, under a contract with AFSL. Shipments that meet all criteria are identified by the application of a high-security certification sticker and a Lot identification stamp on each shipping carton.



2018 Consumer Fireworks Certification Sticker

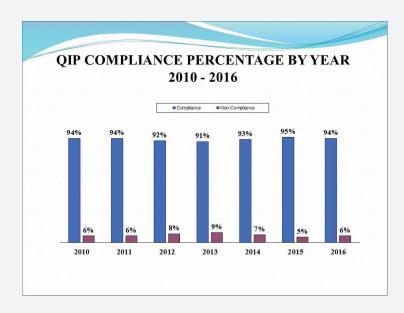
### **TESTING VOLUME IN 2016.**

AFSL tested 7.15 million cases of fireworks under the consumer fireworks testing program in 2016. This represents approximately 30,200 lots of fireworks tested at more than 500 factories in China. The chart below shows the year-by-year testing volume expressed in shipping cases.



### **IMPROVEMENTS IN COMPLIANCE.**

The AFSL Program has had a dramatic impact on the compliance of fireworks shipped to the U.S. market. In 1994, the first year of testing, only 64% of shipments tested complied with the AFSL Standards. The chart below shows the level of compliance has remained above 90% for the past seven years.





## **AFSL BOARD OF DIRECTORS - 2017**



Joel Anderson
Director Emeritus



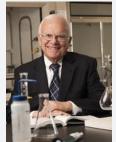
Michael Cartolano



**Thomas Chan** 



Michael Collar Member at Large



John Conkling Technical Adviser



**Chester Davis** 



Phil Grucci



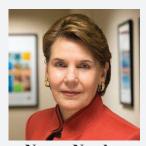
Michael Ingram President



Mick Marietta Secretary



John Mo



Nancy Nord



Tad Trout Treasurer



Joe Wan



Alan Zoldan Vice President



## **AFSL STAFF**



John Rogers Executive Director



**Quin Dodd General Counsel** 



Jieli Tan Office Manager



Jerry Wingard Project Manager



William Zhou China Audit Control Manager



Tony Gong Auditor



Emily Peng China Administrative Assistant

## AFSL MEMBERSHIP LIST

## CONSUMER FIREWORKS MEMBERS (U.S. IMPORTERS)

1	Advanced Technique Fireworks, Inc.,	30	Ches-Lee Enterprises, Bastrop, TX
	Goshen, KY	31	Coach's Fireworks LLC, Magnolia, TX
2	Alamo Fireworks, Inc., China Grove, TX	32	Consigned Sales, Inc., Grandview, MO
3	All Events Inc. DBA Robbies Fireworks,	33	Cornellier Fireworks Co., Ltd., Beloit, WI
	Jackson, MS	34	Crazy Cracker Fireworks LLC,
4	America's Thunder Fireworks, LLC,		Lincoln, NE
	Shepherdsville, KY	35	Crazy Debbies Fireworks, LLC,
5	American Fireworks Co., Inc., Durant, OK		Joplin, MO
6	American Fireworks Co., Inc., Walls, MS	36	D&T Imports, Inc., Henderson, NV
7	American Packaging LLC, Kansas City, MO	37	Dahlia Group LLC DBA Wild Dragon
8	American Promotional Events, IncEast,		New Castle, PA
	Florence, AL	38	Dapkus Fireworks Inc., Portland, CT
9	American Promotional Events, Inc	39	Dynomite Fireworks, Seymour, MO
	Northwest, Tacoma, WA	40	Eagle Fireworks, Inc., Kent, WA
10	American Promotional Events, Inc	41	Eagle Fireworks, Inc., Marietta, OH
	Texas, L.P., Lubbock, TX	42	Enigma Fireworks Inc., Springfield, VA
11	American Promotional Events, Inc	43	Fat City, Inc., Meridian, ID
	West, Fullerton, CA	44	Fireworks & More, dba Fireworks
12	American Thunder Fireworks Inc.,		Outlet, Baldwin, WI
	North Reading, MA	45	Fireworks Empire, Afton, TN
13	Ammo Hut Productions, Inc., Claremore, OK	46	Fireworks Fanatics LLC, Wright City, MO
14	Armadillo Brand, Inc., Lumberton, TX	47	Fireworks Importing, Inc., St. Joseph, MO
15	Arrow Fireworks LLC, Yelm, WA	48	Fireworks of Alabama, Inc.,
16	Atlas Importers, Inc., Marion, SC		Adamsville, AL
17	Atlas PyroVision Entertainment Group, Inc.,	49	Fireworks Over America, Springfield, MO
	Jaffrey, NH	50	Flash Fireworks, Derby, KS
18	Atomic Fireworks Inc. of Arkansas,	51	Flashing Thunder Fireworks, Mitchell, IA
	West Memphis, AR	52	Flying Phoenix Corp., Riverton, WY
19	Bada Boom Fireworks, Blakeslee, PA	53	Four Seasons Fireworks/Darrow
20	Bellino Fireworks Inc., Papillion, NE		Ventures Inc., Winter Springs, FL
21	Bethany Sales Co. Inc., Bethany, IL	54	Galaxy Fireworks, Inc., Tampa, FL
22	Big's Fireworks LLC, Edgewood, TX	55	Garrett's Worldwide Enterprises, LLC,
23	Big Tex Fireworks, Ltd., Bastrop, TX		Eudora, KS
24	Boom Town Fireworks, Inc., Dyer, IN	56	Generous Jerry's F.W. Inc., Grand Forks, ND
25	Burda Brothers, Inc., Monroe, MI	57	Hale Fireworks, LLC, Buffalo, MO
26	Burt's Fireworks, Inc., Eagleville, MO	58	Half Price Fireworks Inc., Harrison, OH
27	Capital Pyro LLC, Taylorville, IL	59	Hamburg Fireworks Display Inc.,
28	Cassorla Bros, Inc., Battle Mountain, NV		Lancaster, OH
29	C-H Wholesale Fireworks, Inc.,	60	Heartland Associates, Columbia, PA
	Muskogee, OK	61	Herbie Famous Fireworks, Inc. T/A South

	Carolina Distributors, Cherokee Falls, SC	98	Norred Fireworks, Roanoke, AL
62	High 5 Fireworks, Inc., Junction City, OR	99	North Central Industries, Inc., Muncie, IN
63	Hisle Enterprises, LLC, Evensville, IN	100	Nostalgia Pyrotechnics, Inc., Osco, IL
64	International Fireworks Mfg. Co.,	101	Olympus Fireworks, LLC, Syracuse, UT
	Douglassville, PA	102	P & P Imports Inc., Sparta, MI
65	Island Fireworks Company, Hager City, WI	103	Patriot Fireworks, USA, LLC, Ann Arbor,
66	J. K. Marketing, LLC, Rexburg, ID	105	MI
67	Jake's Fireworks, Inc., Pittsburg, KS	104	Patriot USA, Abilene, KS
68	Jake's Over Texas, Nederland, TX	105	Phantom Importing & Distributing, LLC
69	Jeff's Fireworks Inc., Fowlerville, MI	100	Youngstown, OH
70	Johnny Lemas Fireworks, Angola, IN	106	Power Source, Inc., Bonner Spring, KS
71	Johnny Rockets Display Company,	107	Precision Pyrotechnics, Inc., Wiggins, MS
/ 1	Highland, IN	108	Precocious Pyrotechnics, Inc., Belgrade, MN
72	Jolly Jacs, LLC, Cheyenne, WY	109	Pyro Planet, Ltd., Zelienople, PA
73	K & L Marketing Inc. dba	110	Pyrotecnic Suppliers, LLC, Henderson, NV
13	Big Top Fireworks, Cummings, ND	111	R. Brown & Company, Missoula, MT
74	Ka-Boomers Enterprises, Inc., Wahoo, NE	112	Racine Fireside Corp., Caledonia, WI
75	Keystone Fireworks & Specialty Sales	113	± ′
13			Rainbow Fireworks, Inc., Inman, KS
76	Co. Inc., Dunbar, PA	114	Rainmaker Enterprises Ltd., Somerset, WI
76	Keystone Novelties Wholesale,	115	Red Rabbit Fireworks LLC, Vancouver, WA
77	Lancaster, PA	116	Red Rose Imports, LLC, Willow Street, PA
77	L. W. Loyd Co., Inc., South Pittsburg, TN	117	Reeves Boomland, Inc., Benton, MO
78	Lantis Fireworks, Inc., North Sioux City, SD	118	Reichenbach Fireworks, Co., Billings, MT
79	Lew's Fireworks Inc., Watertown, SD	119	RKM Fireworks/St. Evans Inc.,
80	Liberty Fireworks Inc Craig, MO		Edwardsburg, MI
81	Liberty Fireworks, Inc Great Falls, MT	120	Safety 4th Fireworks Inc., Stratton, OH
82	Lucky Dragon Fireworks, Dearborn, MI	121	Salish Fireworks, Anacortes, WA
83	Magic in the Sky, LLC, San Antonio, TX	122	Samrok Inc., Calgary, Alberta, Canada
84	Martin's Fireworks, Manchester, TN	123	Sanedsam Inc., Old Orchard Beach, ME
85	Marv's Fireworks, Grand Island, NE	124	Schneitter Fireworks and Importing Co.,
86	Michons Wholesale, Moneta, VA		St. Joseph, MO
87	Micronesia Holding Co., LLC,	125	Selva's Fireworks, LLC, Everett, WA
	Saipan, MP	126	Shelton Fireworks, Eagleville, MO
88	Mid-South Imports, Lenoir City, TN	127	Sky Blooms Fireworks, LLC,
89	Mike Killian Wholesale Fireworks.		Lake Lotawana, MO
	S. Pittsburg, TN	128	Sky King Unlimited Inc.,
90	Miller Fireworks Co., Inc., Holland, OH		Port St. Lucie, FL
91	MPI Entertainment Corporation AKA	129	Slay's Fireworks, Many, LA
	Prosumer Fireworks Brand, Marengo, IL	130	Southeastern Fireworks, Inc.,
92	Mr. B Fireworks, Inc., Schulenburg, TX		Birmingham, AL
93	Mr. G's Fireworks, San Benito, TX	131	Sparkle Fireworks, Inc., Ripley, MS
94	Mr. W. Fireworks, Somerset, TX	132	Spirit of '76, Columbia, MO
95	Neeley Sales Co., Inc., Greenwood, SC	133	Spring Field Fireworks, Inc., Bluffton, OH
96	Nicholson's Wholesale Fireworks,	134	Star Spangled Novelties LLC, Mosinee,
	Kaufman, TX		WI
97	Ninja Fireworks Company, LLC,		
	Henderson, NV		
	,	0	

135	Starr Fireworks, Horace, ND	149	TYI Trading LLC, Commerce, CA
136	State Line Fireworks, Inc., Texarkana, AR	150	Uncle AL's Seasonal Retail Inc.,
137	Stateline Fireworks LLC/Tennessee		Ft. Myers, FL
	Alabama Fireworks, South Pittsburg, TN	151	Utah Grand Finale Fireworks, Pleasant
138	Stowers, Inc., Luttrell, TN		Grove, UT
139	Sun Pacific Trading Co., Honolulu, HI	152	Victory Fireworks, Inc., Ellsworth, WI
140	Superior Fireworks, LLC, Orange Park, FL	153	Vito's Fireworks, Inc., Covington, KY
141	Sydko Enterprises Inc., St. Joseph, MO	154	Wald and Company, Inc.,
142	The Fireworks Superstore LLC,		Greenwood, MO
	Hannibal, MO	155	Warpath Corp, Plummer, ID
143	The Rozzi Company, Inc. dba Rozzi, Inc.,	156	Western Fireworks, Inc., Aurora, OR
	Love Land, OH	157	Wild Willy's Fireworks, Papillion, NE
144	Thunder Fireworks, Tacoma, WA	158	Winco Fireworks International, Inc.,
145	Thundercat Fireworks & Pyrotechnic		Lonejack, MO
	Display Co., Inc., Madison, WI	159	Winco Utah, Evanston, WY
146	T. H. Y. & Associates, Inc., Keaau, HI	160	Wolverine Fireworks Display, Inc.,
147	Tri-Star Capital Distributors, LLC		Kawkawlin, MI
	Brentwood, TN	161	Zenith Specialties, L.P., Clinton, MO
148	Two Bears Trading, LLC, Tacoma, WA		

# CONSUMER FIREWORKS MEMBERS (HONG KONG/CHINA/THAILAND SHIPPERS)

- 1 Acme Fireworks Co., Ltd. 20 2 Ali Fireworks Ltd. 21 3 ANCO Pyrotechnics, Ltd. 22 Asia Pyrotechnics Inc.-Guangzhou Office 4 23 5 Babytiger Fireworks Imp.&Exp. Ltd., Co. 24 6 Beihai Kylin Fireworks Co., Ltd.
- 7 Brothers Pyrotechnics, Inc.
- 8 C & L Int'l Industrial Co., Ltd.
- 9 Changsha Fortune Fireworks Trading Co., Ltd.
- 10 Changsha Royal Import & Export Co., Ltd.
- 11 Changsha Xinhui Fireworks Import & Export Co., Ltd.
- 12 Changsha Year Import & Export Co., Ltd.
- 13 China DIY Marketing Ltd.
- 14 China Hunan Liuyang Asian Swan Fireworks, Co., Ltd.
- 15 China National Samkwong Fireworks Co. Ltd.
- 16 China Skysong Fireworks Co., Ltd.
- 17 Chinasky Pyrotechnics Limited
- 18 Dancing Fireworks Group
- 19 Deqili Trade (Hepu County) Co., Ltd.

- 20 Dracon Trading Ltd.
- 21 Fisherman Pyrotechnics, Inc.
- 22 Forward Fireworks Co., Ltd.
- 23 Fox Fireworks Ltd.
- 24 Gate Import and Export Trade of Liuyang Co., Ltd.
- 25 Glorious Co.
- 26 Guangzhou Holiday Import & Export Co., Ltd.
- 27 Hefung Fireworks Co., Ltd.
- 28 Hong Kong Bravo Fireworks Co., Limited
- 29 Hop Kee Pyrotechnics
- 30 Hua Hui Fireworks Manufacturing Co. Ltd.
- 31 Hunan Liuyang Worldwide Fireworks, Co., Ltd.
- 32 Hunan Mega Imports & Exports Trading Co., Ltd.
- Hunan Top and Ideal Trading Development Co., Ltd.
- 34 Hunan Vanguard Business Development Co., Ltd.
- 35 Hunan Welldone Fireworks Co. Ltd.

- 36 Hunan Winwell Import & Export Trading Co., Ltd.
- 37 Inter-Oriental Fireworks (HK) Limited
- 38 Jiangxi Changshan Exporting Fireworks Manufacture Co., Ltd.
- 39 Jiangxi Dahlia Trade Co., Ltd.
- 40 Jiangxi Golden Steed Fireworks & Firecrackers Co., Ltd.
- 41 Jiangxi Panda Fireworks Co., Ltd.
- 42 Jiangxi Ping Xiang Dancing Red Devil I&E Co., Ltd.
- 43 Jiangxi Province Red Horse Fireworks Co., Ltd.
- 44 Jiangxi Wanzai Golden Peak Corporation
- 45 Legend Fireworks, Inc.-Changsha
- 46 Liuyang Candour Fireworks Co., Ltd.
- 47 Liuyang Fireworks Limited
- 48 Liuyang Flying Dragon Fireworks Co., Ltd.
- 49 Liuyang Flying Eagle Fireworks Co., Ltd.
- 50 Liuyang Fuxiang Fireworks Group Co., Ltd.
- 51 Liuyang Global Fireworks Trade Co., Ltd.
- 52 Liuyang Goldenkey Trade Co., Ltd.
- 53 Liuyang Hengtai Fireworks Trading Co., Ltd.
- 54 Liuyang Import & Export Trade Integrated Services, Co., Ltd.
- 55 Liuyang Jiasheng Fireworks Co., Ltd.
- 56 Liuyang Jinkou Rising Import & Export Trading Co., Ltd.
- 57 Liuyang Jinsheng Fireworks Co., Ltd.
- 58 Liuyang Jumbo Trading Co., Ltd.
- 59 Liuyang Kesheng Trading Co., Ltd.
- 60 Liuyang Kongsun Fireworks Exp. Trading Co., Ltd.
- 61 Liuyang Leping Import & Export Co., Ltd.
- 62 Liuyang Mandarin Fireworks Co., Ltd.
- 63 Liuvang Mei-Mei Fireworks Trading Co., Ltd.
- 64 Liuyang Miracle Import & Export Trading Co., Ltd.
- 65 Liuyang Pyroshine Fireworks Co., Ltd.
- 66 Liuyang Qingtai Export Trade Co., Ltd.
- 67 Liuyang Raging Bull Imp. & Exp. Co., Ltd.

- 68 Liuyang Xiangguang Fireworks Trading Co., Ltd.
- 69 Liuyang Xiaohe Fireworks Mfg. Co., Ltd.
- 70 Liuyang Yihelong Trade Co., Ltd.
- 71 Liuyang Yongfa Industry Co., Ltd.
- 72 Oasia International Ltd.
- 73 Omni Trading Co.
- 74 Ping Xiang Qi Sheng Imp & Exp Co., Ltd.
- 75 Po Sing Pro Pyrotechnics Ltd.
- 76 Pyro Formex, Inc./Golden Bear Fireworks, Inc.
- 77 Pyromooi Fireworks Ltd.
- 78 Pyro Pro Co., Ltd.
- 79 Red Eagle Industrial & Trade Co., Ltd. Hebei
- 80 Shangli Jiali Import & Export Trade Co., Ltd.
- 81 Shangli Tongle Trading Co., Ltd.
- 82 Shiu Fung Fireworks Co., Ltd.
- 83 Shogun Pyrotechnics Ltd.
- 84 Space Trading Co., Ltd.
- 85 Standard Fireworks China Ltd.
- 86 Stellar International Trading Co., Ltd.
- 87 Sunlight China Products Ltd.
- 88 Sunshine Promotion Product Company
- 89 Thunder Trading Co., Limited
- 90 Titan Fireworks Limited
- 91 T-Sky International Group Co., Limited
- 92 United Pyrotechnics USA Inc.
- 93 Wanzai Century Import & Export Co., Ltd.
- 94 Wanzai Color Trading Co., Ltd.
- 95 Wanzai Hongrui Trade Co., Ltd.
- 96 Win Da Hong (HK) Co., Ltd.
- 97 Worldwide Exporting Limited
- 98 Wukong Fireworks Ltd.
- 99 Yichun Fenghua Import & Export Co., Ltd.
- 100 Yuen Loong Hong Firecrackers Ltd.
- 101 Pacific Pyro Company Limited (Thailand)

### **GENERAL MEMBERS**

- 1 American Pyrotechnics Association, Bethesda, MD
- 2 Drayton Insurance Brokers, Inc., Birmingham, AL

- 3 Hong Kong Pyrotechnics Association, Hong Kong
- 4 Hua Yang Transportation Co., Ltd., Shanghai, China

## **DISPLAY FIREWORKS MEMBERS (U.S. IMPORTERS)**

1 Lew's Fireworks, Inc., Watertown, SD Alonzo Fireworks Display, Inc. 10 Mechanicville, NY Magic in the Sky, LLC, San Antonio, TX 11 2 Ammo Hut Productions, Inc., 12 Melrose Pyrotechnics, Inc., Kingsbury, IN Claremore, OK 13 Pyro Shows, Inc., La Follette, TN Arthur Rozzi Pyrotechnics, Inc., Pyro Spectaculars, Inc., Rialto, CA 3 14 Maineville, OH Pyrotecnico, New Castle, PA 15 Atlas Pyro Vision Entertainment Group, RES Specialty Pyrotechnics, 4 16 Belie Plaine, MN Inc., Jaffrey, NH Central States Fireworks, Inc., Athens, IL Starfire Corporation, Carrolltown, PA 5 17 Fireworks by Grucci, Brookhaven, NY 6 Western Enterprises, Inc., Carrier, OK 18 7 Hamburg Fireworks Display Inc., 19 Wolverine Fireworks Display, Inc., Lancaster, OH Kawkawlin, MI J&M Displays, Inc., Yarmouth, IA 8 20 Zambelli Fireworks, New Castle, PA 9 Kellner's Fireworks Inc., Harrisville, PA

# DISPLAY FIREWORKS MEMBERS (HONG KONG/CHINA SHIPPERS)

1	An Ping County Fireworks General Factory	9	ICON Pyrotechnics International Co., Ltd.
2	Babytiger Fireworks Import &	10	Inter-Oriental Fireworks (HK) Ltd.
	Export Ltd., Co.	11	Jiangxi Changshan Exporting Fireworks
3	Cenxi Wahyee Advanced Fireworks Factory		Manufacture Co., Ltd.
4	Dancing Fireworks Group	12	Jiangxi Panda Fireworks Co., Ltd.
5	Far East San Luen Fat Trading Ltd.	13	Jiangxi Province Lidu Fireworks
6	Glorious Professional Products		Corporation Ltd.
	Trading Limited	14	Jiangxi Province Light Industrial
7	Hua Hui Fireworks Manufacturing Co., Ltd.		Products I/E Co., Ltd.
8	Hunan Cereals, Oils and Foodstuffs	15	Jiangxi Wanzai Golden Peak
	Import & Export Group Co., Ltd.		Fireworks Corp.

16	Liuyang Goldenkey Trade Co., Ltd.	22	Liuyang Xiangguang Fireworks Trading
17	Liuyang Jingli Fireworks Trade Co., Ltd.		Co., Ltd.
18	Liuyang Jinsheng Fireworks Co., Ltd.	23	Nan Chang Xiangtian Imp. & Exp.
19	Liuyang Leping Import & Export Co., Ltd.		Co., Ltd.
20	Liuyang Qingtai Export Trade Co., Ltd.	24	United Pyrotechnics (USA) Inc.
21	Liuyang Sunny Fireworks Trade Co., Ltd.	25	Yung-Feng Firecrackers & Fireworks Co.,
			Ltd.

## THE YEAR IN REVIEW

# AFSL-TESTED PRODUCTS FARE WELL UNDER CPSC'S PROPOSED METAL POWDER LIMIT

In a series of tests conducted in China by AFSL's testing contractor, Bureau Veritas, a large majority of AFSL-certified aerial fireworks devices complied with the fine mesh metal powder prohibition proposed by the Consumer Product Safety Commission (CPSC). See Page 24 for a detailed description of the proposed rule.

In anticipation of the proposed limit on metal powders less than 100 mesh in particle size for aerial devices with break charges (including mine and shell devices, reloadable shells, rockets, missiles, and Roman Candles), AFSL contracted with its contract testing laboratory Bureau Veritas (BV) to measure the fine mesh metal powder composition in items presented to AFSL for normal certification testing. The tests, which included more than 1700 different samples, were conducted in May 2016, April 2017, and in August 2017, using the X-ray Florescence (XRF) Scanner identical to the device CPSC plans to use as its screening tool to determine compliance with the ban if finalized. BV also followed the test procedure that CPSC is expected to use as well.





In the May 2016 tests, 597 mine and shell devices and 510 reloadable tube aerial shell devices were selected randomly from devices that were being routinely tested under the AFSL program. The names/model numbers of the devices were not recorded, and samples of the break charges were collected as the devices were being analysed for total pyrotechnic composition weights.

The samples were tested for the presence of fine mesh metal powder using the XRF scanner described above. Results of the analysis revealed that 65% of the mine and shell devices and 82% of the reloadable shell devices contained fine mesh metals at 1% or less, the level of allowable contamination proposed by CPSC. When measured using a 2% contamination level recommended in the AFSL/APA comments, the pass rate increased to 75% for mine and shell devices and 87% for reloadable tube devices.

A second round of testing was conducted in April 2017 to compare current production to 2016 samples. A total of 616 samples were randomly selected from products that were being tested for certification

under the AFSL program. 92% of the mine and shell devices and 78% of the reloadable tube aerial shell devices had metal (aluminium) powder at less than 1%. These percentages increased marginally when measured at the 2% metal powder content level. The tables below show the more detailed analysis for the 2017 samples tested.

It is worth noting that the results obtained in 2016 and 2017 involved AFSL - certified products only and may not represent products not submitted to AFSL for testing. AFSL has been conducting some screening of metal powder content using field expedient procedures. Although the procedures are designed only to determine whether fine mesh metal is present and do not reflect specific percentages, the field screening may have had an impact on the use of fine mesh metal by the factories. In addition, AFSL has advised participating factories on several occasions that the proposed ban on fine mesh metal powders by CPSC is expected, and many may already have begun modifying their break charges to comply with proposed rule.

## 2017 AFSL Testing Results

RTAS				
	Number of Samples (AI)	% of Samples	Number of Samples (Mg)	% of Samples
% of Metal				
<lod< td=""><td>138</td><td>45.85%</td><td>299</td><td>99.34%</td></lod<>	138	45.85%	299	99.34%
0-0.5%	82	27.24%	0	0.00%
0.5-1%	16	5.32%	0	0.00%
1-1.5%	1	0.33%	0	0.00%
1.5-2%	2	0.66%	1	0.33%
2-3%	6	1.99%	0	0.00%
3-10%	51	16.94%	1	0.33%
>10%	5	1.67%	0	0.00%

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## 2017 AFSL Testing Results

MSDV				
	Number of Samples (AI)	% of Samples	Number of Samples (Mg)	% of Samples
% of Metal				
<lod< td=""><td>227</td><td>72.07%</td><td>313</td><td>99.37%</td></lod<>	227	72.07%	313	99.37%
0-0.5%	55	17.46%	0	0.00%
0.5-1%	9	2.86%	0	0.00%
1-1.5%	3	0.95%	2	0.63%
1.5-2%	2	0.63%	0	0.00%
2-3%	0	0.00%	0	0.00%
3-10%	10	3.17%	0	0.00%
>10%	9	2.86%		

Finally, BV conducted a third round of tests on a limited number of sample of products at the request of four U.S. importers who wanted to determine whether their products would meet the fine mesh metal powder ban. These tests, conducted in August 2017 were requested by and paid for by the four importers and used products provided by the importers' factories in China. A total of 70 items were tested for Fireworks Over America, TNT Fireworks, Phantom Fireworks, and Winco Fireworks. Following are the combined results of those tests:

	Number of Samples (AI)	% of Samples	Number of Samples (Mg)	% of Samples
% of Metal				
<lod< td=""><td>27</td><td>34.2%</td><td>76</td><td>96.29</td></lod<>	27	34.2%	76	96.29
0-1%	44	55.7%	0	0.009
1-2%	3	3.8%	0	0.009
>2%	5	6.3%	3	3.89

Once CPSC determines whether it will finalize the proposed requirement (they are expected to do so early next year), AFSL will offer to individual factories in China an opportunity to submit their items to BV to determine whether they comply with the fine mesh metal powder ban in advance of the effective date.

The conclusion drawn from the three series of tests is that the large majority of aerial devices tested by AFSL already comply with the metal powder limit proposed by CPSC, and even more so if CPSC decides to raise the allowable contamination level from 1% to 2% as requested by AFSL. Those factories whose products currently contain more than the allowable contamination level should have little difficulty adjusting their production to comply with the requirement and still produce products similar in performance to those currently in the marketplace.

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#### RELOADABLE SHELL DEATHS/INJURIES DOWN FROM 2016.

From 2014 - 2016 there was an alarming increase in the number of deaths and severe injuries reported for reloadable tube aerial shell devices. AFSL conducted on-site investigations of these incidents and learned that most of the deaths occurred when users launched the reloadable shell device from the tops of their heads or while holding it against their chest. AFSL continued to monitor the injury data and news reports for similar incidents in 2017. Through August of this year, one death has been reported.

Several factors may have contributed to this welcome decline. AFSL modified the cautionary labeling for reloadable aerial devices to warn consumers of the risks of death associated with firing the shells from the

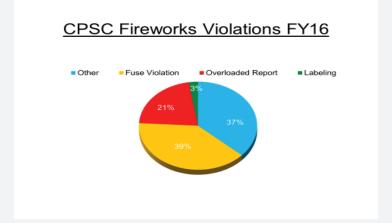
head or body. Factories began using the new warning labels early last year. CPSC included in its Annual Fireworks Safety campaign warnings about the risk of death associated with this gross misuse of the product. Also, AFSL members have been monitoring the internet for videos posted on YouTube showing consumers firing the products from their heads, and requesting that Google remove the videos. These videos are believed to have resulted in a number of copy-cat incidents.

Google has cooperated in removing videos when requested, but ongoing monitoring is necessary to spot and request removal of newly posted videos. Hopefully, all these efforts, along with continuing education of consumers to the dangers of this practice, will continue to discourage consumers from misusing reloadable shells and other consumer fireworks in this dangerous manner.

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#### CPSC AND AFSL TESTING SHOW HIGH FAILURE RATE FOR FUSES.

During the past two years, violations for fuse failures are the most common reason for failing fireworks shipments, according to data provided by the Consumer Product Safety Commission (CPSC) and AFSL's own test data. For 2016, CPSC reported that 39% of all fireworks failures were fuse violations. Under the AFSL program, during the first half of 2017 fuse failures accounted for 15 percent of all AFSL failures. Both AFSL and CPSC data include failures for long fuse burn time, short fuse burn time, fuse side ignition, and fuse attachment.



Investigation into the cause of this recent spike in fuse failures revealed that the China government has now centralized the manufacturing of fuses and all factories are purchasing fuses from just a few fuse manufacturers. This has caused an increase in the cost of fuse, which has in turn caused factories to switch to thinner gauge, cheaper fuses with fewer coats of lacquer. The result is that fuses have a less reliable burn rate and a greater tendency to dry out or absorb moisture during the shipping process.

In the past year, AFSL has taken several steps in an effort to improve the performance of fuses under our testing program. Beginning in February 2016, AFSL tightened its fuse burn time testing procedure by requiring that all fuses must burn between four and eight seconds (Roman Candles must burn between four to eleven seconds) to receive AFSL certification. Both the AFSL Standards and the CPSC regulations state

fuses must burn between 3 seconds and 9 seconds. By shaving one second off each end of the requirement during testing, AFSL expects to reduce the number of cases where products are passed by AFSL in China, only to be failed by CPSC once they arrive in the U.S. Though not yet conclusive, AFSL has seen an increase in the number of fuse burn time failures recorded in its program in China.

In February 2017, AFSL also modified the definition of "Safety Fuse" by requiring that fuse must be coated with several coats of lacquer rather than simply stating the fuses must be treated with water resistant material. This information was provided to the manufacturers in March 2017, with an effective date of April 1, 2017. It still is too early to measure what impact this change has had on fuse quality.

The Standards Committee currently is considering a change in the fuse side ignition test procedure that would require fuses to resist side ignition when tested with a burning cigarette for longer than 3 seconds, which is the required test procedure presently. AFSL has requested that BV begin recording all tests related to fuses, including fuse burn time, fuse side ignition, and fuse attachment. AFSL also is working with a fuse manufacturer in China to develop design/performance specifications for fuses.

Once test data is available from CPSC for 2017, AFSL will be able to measure the impact that these changes have had on fuse failures. If the failure rate does not improve, AFSL will consider developing a detailed specification for fuses for individual product categories, which is a much more complicated and less desirable option. Assuming that factories begin using better quality, more reliable fuses in their production and thereby improving the failure rate for fuses, AFSL intends to revert back to the 3 to 9 second fuse burn time requirement and the 3-second side ignition test.

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# AFSL HONORS RETIRING DIRECTOR CHESTER DAVIS FOR TWELVE YEARS ON THE BOARD.

Chester Davis, the owner and CEO of Ches - Lee Enterprises, Inc., DBA American Fireworks based in Bastrop, Texas, has decided to retire from the AFSL Board after having served on the

Board for the past twelve years. In recognition of his service to the Board, AFSL President, Mike Ingram, is presenting Chester with a Distinguished Service Award during the AFSL General Membership Meeting in San Diego, CA on October 4, 2017.

Chester has been actively involved in the wholesale and retail



Chester Davis and wife Jeanell at AFSL Board dinner in Louisville, KY, 2012

fireworks business for more than 40 years. He currently is President of the Texas

Pyrotechnic Association, and has extensive experience as a registered lobbyist in the State of Texas. He has been a member of the AFSL Board of Directors since September 2005. He also is a member of the Board of

Directors of the American Pyrotechnic Association. His company has been an active importer member of AFSL since 2001.



Chester Davis fulfilling duties as Official Toastmaster at AFSL Board Dinner in Las Vegas, 2014.

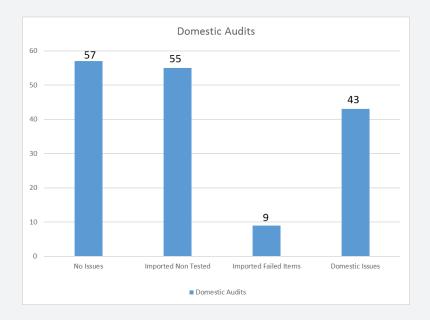
In addition to providing his expert knowledge and common sense approach on Board issues, Chester also is famously known as the "AFSL Toastmaster", never declining the opportunity to offer humorous and sometimes tastefully off-color remarks, to lighten up even the most serious circumstances.

\* \* \*

#### CORRECTIVE ACTIONS TAKEN BY THE BOARD BASED ON DOMESTIC AUDITS.

During the past year, AFSL has continued to conduct audits of participating Importers facilities in the U.S. to assist them in complying with AFSL requirements and all mandatory CPSC and DOT requirements for fireworks. AFSL's Project Manager, Jerry Wingard, began conducting audits in 2012. The first round of audits was performed at companies sitting on the AFSL Board of Directors, followed by audits of all importer members of AFSL.

The initial focus of the audits was to monitor importers' compliance with their membership agreements, including having all products tested and certified by AFSL prior to importation into the U.S. Members were advised that during the first round of Domestic audits, AFSL would not seek any punitive actions against companies for failures to comply with the agreements. As the audits have progressed into phase III, AFSL is taking corrective actions against companies that failed to correct violations noted during the initial audits. The chart below shows the type of commonly identified during the audits.



During the initial audits, ninety-one companies were not fully in compliance with the AFSL program. AFSL notified these companies of their deficiencies and gave them ample time to correct these issues. These companies are now being re-audited to determine if corrections have been made. AFSL is taking corrective actions, ranging from suspension to requests for a detailed corrective action plan, to indicate the companies' plans for correcting existing problems. To date, 11 shippers and 7 importers have received requests for corrective actions.

The Audit program also focuses the performance of AFSL's Testing Contractor, BV, in properly identifying shipments certified by them prior to shipment to AFSL Importer Members. During the early audits, Jerry looked at AFSL Lot Numbers stamped on cartons and application of the AFSL certification stickers to shipping cartons. Deficiencies found in these processes were referred to BV for corrective actions, including additional training of the technicians in proper performance of these processes.

\* \* \*

#### RECENT MODIFICATIONS TO AFSL STANDARDS

The AFSL Standards Committee had recommended several modifications to the Standards which have been (or expect to be) approved by the Board of Directors. Following is a description of the modifications.

#### I. NEW STANDARD FOR FUSELESS FIRECRACKERS

The Board of Directors approved a new Standard for Fuseless Firecrackers developed by the Standards Committee in February 2017. The requirements include:

- a. A requirement that AFSL will only test devices that have been approved and assigned a transportation classification of fireworks "UN0337, 1.4S by the U.S. Department of Transportation."
- b. A limit of 50 milligrams (0.78 grains) for a single Fuseless Firecracker.
- c. Individual Fuseless Firecrackers must not ignite when dropped onto concrete or equivalent non-yielding surface or asphalt from a height of 60 cm (2 feet).
- d. The maximum number of Fuseless Firecrackers per individual retail sales package shall be 20 units, packed with an equal or greater volume of sawdust or similar impact-absorbing material.
- e. No more than one Fuseless Firecracker shall ignite inside a sealed retail package when the package is dropped onto a concrete or asphalt surface from a height of 152 cm (5 feet).
- f. Individual Fuseless Firecrackers with outside diameter greater than 6.4 mm (1/4 inch) must bear the following identification: "Consumer Fireworks 1.4S."
- g. Product design, packaging, and case packing must produce a finished shipping case in which simultaneous explosion of most or all of the items does not result from ignition of one item in the shipping case.

The Standard, approved by the Board at the February 2017 meeting, has an effective date of **April 1, 2017.** AFSL has delayed certifying shipments of Fuseless Firecrackers because of the need to finalize an appropriate test procedure for determining whether the devices contain red phosphorous, which is a prohibited chemical and which has been found in the composition of some Fuseless Firecrackers in the past. Standard laboratory chemical analyses are insufficient to distinguish red phosphorous from other types; therefore, a field expedient test procedure is under development. Once available, AFSL will provide the test procedure to the industry and begin certifying Fuseless Firecrackers under the China testing program.

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### II. REQUIREMENTS FOR FUSES.

AFSL modified the definition of "Safety Fuse" in all the AFSL Standards to read as follows:

"Safety fuse: A fuse consisting of a thread-wrapped powder train that has been coated with a lacquer sufficient to prevent side ignition when tested in according with the AFSL test procedure for side ignition resistance."

Effective Date: April 1, 2017.

This change was made in an effort to require manufacturers to use better quality, more consistent fuses to reduces the likelihood that fuses will fail one or more of the requirements for fuses applicable to all fireworks devices, including fuse burn time, fuse ignition and fuse attachment. See article "Fuse Failures", page 16.

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# III. NEW STANDARD FOR MISCELLANEOUS GROUND ITEMS THAT DO NOT FIT SPECIALTY DEFINITION.

During the August 2017 Standards Committee meeting, the Committee developed a separate standard for

a variety of small items that previously have been tested and certified under the AFSL Standard for Specialty Items but do not meet the definition of "Specialty" because the design of items do not make them attractive to children. The new category, known as the Standard for Miscellaneous Fireworks Devices, covers such items as "Strobes", "Sparkler Trees", "Crackling Balls" and similar devices.

The new Standard, which is expected to be approved by the Board at the October 5, 2017 Board meeting with an immediate effective date since these products already are being certified by AFSL.

The Standard includes chemical composition limits for the following items:

- 2-1.8.1 Crackling Balls and Crackling Tubes must not contain more than 20 grams (0.71 ounces) of total chemical composition.
- 2-1.8.2 Crackling Balls and Crackling Tubes must not exceed 75 grams (2.66 ounces) per inner package.
- 2-1.8.3 Flashers (Strobes) must not contain more than 5 grams (0.18 ounces) of total chemical composition.
- 2-1.8.4 Flashers (Strobes) must not exceed 60 grams (2.13 ounces) per inner package.
- 2-1.8.5 Sparkler Trees that contain any Chlorate must not contain more than 4 grams (0.14 ounces) of pyrotechnic composition each, of which not greater than 15 percent (600 mg) is potassium, sodium or barium chlorate.
- 2-1.8.6 Sparkler Trees that contain any Perchlorate must not contain more than 5 grams (0.18 ounces) of pyrotechnic composition each.
- 2-1.8.7 Sparkler Trees that do not contain Chlorate or Perchlorate must not contain more than 25 grams (0.88 ounces) of pyrotechnic composition each.

The Standard includes all the requirements for fuse burn time, bases, etc. It also contains warning labels for each of the devices, which are identical to the labels AFSL has required for these items in the past. If approved by the Board, a copy of the new Standard will be posted on the AFSL website and will be mailed to all AFSL members and participating factories.

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### AFSL ANNUAL TECHNICIAN CERTIFICATION TRAINING – JULY 2017

Executive Director John Rogers conducted the Annual AFSL Technician Training Course July 24 -27, 2017, in Liuyang, China. All technicians, supervisors, and manager involved with the program, a total of 52 people from Bureau Veritas' testing lab, participated in the training. The training focused on new standards established by AFSL including new requirements for Fuseless Firecrackers, and modifications to the existing requirements for fuses.



Technicians taking Certification Exam during 2017 Training.



Senior Certified Technician Grace Ye receiving AFSL 10 year Service Award.

The training is mandatory for all technicians that test fireworks under the AFSL program and each technician must pass a written exam, given in English, to maintain their current certification or advance to a higher technician classification. It included three

days of classroom training and one day of field exercises where technicians are required to demonstrate the ability to correctly test each category of fireworks.



Senior Certified Technician Cream Xie receives award for highest score(98)on Technician Exam.

Following the training, AFSL hosted a dinner to recognize the accomplishments of the technicians, including a special gift to the technician scoring the highest on the written exam. Service Plaques are given to technician for long-term service to the program, including special awards for 5, 10, and 15 years of service.



### AFSL GENERAL MEMBERSHIP MEETING AT NFA EXPO AND TRADE SHOW.



CPSC's Aaron Orland responds to industry questions at NFA.

AFSL held a General Membership meeting at the NFA Expo in Erie, PA on September 7, 2017. The primary focus of the meeting was the CPSC Notice of Proposed Rulemaking, which among other changes, would limit fine mesh metal powders in aerial fireworks devices to 130 milligrams. During the comment period for the NPR, AFSL submitted comments

strongly supporting the proposed changes to the CPSC regulations. NFA submitted comments that opposed the



AFSL General Membership Meeting participants at NFA.

proposed action, particularly the limit on fine mesh metals in break charges.

AFSL spent the majority of the meeting explaining the basis for AFSL's support for the NPR, including the fact that it would make aerial devices safer by reducing the overall explosive power, while still allowing them to function

effectively. Chuck Rogers from AFSL's contract testing laboratory, Bureau Veritas, reported the results of three series of tests conducted by BV on current production of mine and shell devices and reloadable shell devices. The results showed that a large majority of these devices would comply with the CPSC's proposed limit on fine mesh metal powders. (See detailed results on pages 14-15, above).

Two representatives from CPSC, Aaron Orland, Director of CPSC Chemical Laboratory, and Rodney Valliere who is primarily responsible for drafting the CPSC staff recommendation, attended the meeting and spent nearly half the meeting responding to industry members' concerns and questions about the NPR.

Following the meeting, a number of members expressed appreciation to AFSL and the CPSC representatives for providing an opportunity to hear industry concerns and providing insight into the rationale behind the proposed changes to the CPSC regulations.



George Tasick requesting guidance at NFA Expo.



AFSL staff at NFA Expo.

# Counsel's Corner Quin D. Dodd, Esq.

General Counsel to the AFSL

In March of this year, the Consumer Product Safety Commission issued its long-anticipated Notice of Proposed Rulemaking (NPR) proposing to amend its mandatory consumer fireworks standards in a number of important ways. This action built upon a similar proposal issued by the agency in 2016, but is much more expansive. The public comment period for the NPR recently closed, with AFSL and APA submitting comments expressing strong support for the CPSC changes, with some modifications, since they largely adopt or closely track with a number of



existing, key AFSL and APA/DOT (87-1) safety standards. Considering that the NPR was approved for public comment by a unanimous vote of the Commission and that all five commissioners have generally expressed support for its provisions, AFSL is confident the NPR will be finalized by the Commission and take effect, potentially as early as Q1 of 2018, although the process is difficult to predict with certainty.

There were some 2,400 additional comments submitted on the NPR, many of which expressed opposition primarily to the proposal to limit the metal powder composition in the break (burst) charges of aerial devices. Given such strong industry interest in this NPR, as well as some apparent misunderstanding of what it would and would not do, this article will seek to clarify the break charge and other key provisions of the proposed changes to CPSC's fireworks standards, and provide a brief update on pending CPSC leadership changes.

In brief detail, the NPR (the text and comments for which are available at <a href="www.regulations.gov">www.regulations.gov</a> by entering "CPSC-2006-0034" in the search bar) proposes to:

- Limit to one percent by weight the total fine mesh metal content in the break charge composition of aerial devices and simultaneously to delete the "no audible effects" standard and its related and subjective "ear test" for such devices (AFSL and APA standards currently prohibit all fine mesh metals from break charges to avoid overly energetic devices and therefore potential injury to consumers);
- Adopt AFSL/APA total composition limits and lift/break charge to total composition ratio limits in aerial devices;
- Adopt AFSL/APA composition limits on fountains, torches, wheels and chasers;
- Clarify that firecrackers are subject to 50 mg composition limit;
- Add lead and HCB to the CPSC's existing prohibited chemicals list (similar to AFSL/APA list) and establish a specific 0.25% limit on all prohibited chemicals (0.01% for HCB);
- Incorporate the CSPC side ignition test method into an actual regulatory standard;
- Adopt AFSL/APA requirement that bases remain attached during normal handling and transportation;
- Adopt a number of AFSL/APA warning label requirements;
- Adopt AFSL/APA prohibition on dangerous projectiles emitting from fireworks; and

• For clarity, adopt a number of AFSL/APA definitions, including "burnout," "blowout," and "firecracker," among others.

With regard to the proposal to replace the "ear test" with the limit on fine mesh metals in break charges, there has unfortunately been a lot of misunderstanding of that standard and how it would be tested by industry and the CPSC. AFSL and APA both feel strongly that this provision is necessary for consumer safety, with some minor changes and clarifications included in our comments, especially in light of the fact that it will at long last replace the highly subjective CPSC ear test, which has long been the subject of frustrating CPSC citations for violation. It is also important to understand a number of key <u>facts</u> and dispel some of the unfortunate <u>myths</u> that have circulated about this proposal:

**Myth:** This provision will ban large percentages of aerial devices currently on the market.

**Fact:** Over the past year, AFSL has commissioned its testing lab, Bureau Veritas, to conduct over <u>1,600</u> individual tests of AFSL member aerial devices and found that between 85-90 percent of mine and shell and 80-85 percent of reloadable tube products on the market today would pass a two percent metal powder allowance (the level which AFSL and APA are advocating for) and only a slightly lower percentage would pass the CPSC's proposed one percent limit. And this is of course before the provision becomes mandatory, when factories and importers would presumably adjust their composition mixtures to comply with the new CPSC standard.

**Myth:** Due to contamination from stars and other sources, an importer could be cited for a violation even if they/the factory did not intend to have any metal powder in the break charge.

**Fact:** Both the leaders of AFSL/APA, who collectively have several hundred years of fireworks industry experience, <u>and</u> the CPSC laboratory staff, believe, based on both experience and testing, that metal powder contamination, to the extent it does occur, would <u>not</u> result in a two percent or even a one percent level in break charge compositions.

**Myth:** The x-ray fluorescence (XRF) test method the CPSC has proposed to test for metal powders is flawed and will result in false violations being found.

**Fact:** Both the CPSC laboratory and the AFSL laboratory have done correlation studies using both XRF and the indisputably reliable "wet chemistry" test methods and have found that XRF testing is highly reliable, especially when used to test for relatively "high" (one or two percent) levels of most fine mesh metals like aluminum. Moreover, XRF is the only field-expedient test method that is even viable for fireworks testing and AFSL and its lab have already worked extensively with the CPSC lab staff to ensure that we can reliably replicate the CPSC test method. Sound meter or other test methods are far more variable and fraught with many more difficulties than the "point and shoot" XRF handheld instruments.

**Myth:** A metal powder ban will have no impact on consumer safety.

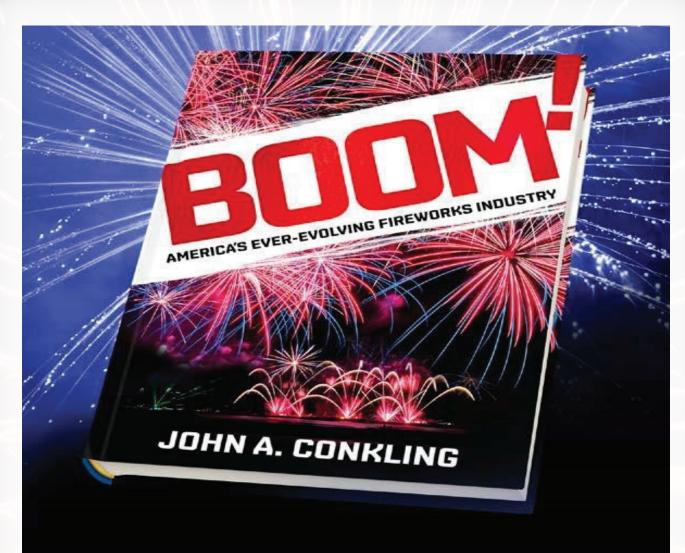
**Fact:** While there are <u>no</u> studies directly and definitively correlating <u>any</u> CPSC or other fireworks safety standard to the exact likelihood of human injury, both CPSC and AFSL test data do clearly demonstrate a direct correlation between metal powders in break charges and the explosive effect of the device. In fact, explosiveness increases exponentially as metal powder content increases. Considering that 1) the number of

deaths from aerial devices has risen sharply in recent years; 2) that this standard will <u>replace</u> the dreaded "ear test;" and 3) that an absolute ban on metal powders is already a federal requirement under 87-1. AFSL and APA both believe that a metal powder limit of two percent is a very reasonable and responsible way to address this very real potential consumer hazard.

In addition to this key regulatory development of the NPR, the leadership and membership of the CPSC is undergoing significant changes. Commissioner and Acting Chairman Ann Marie Buerkle was recently nominated by the President to become the "permanent" chairman of the agency through 2025 and a new commissioner, Boston attorney Dana Baiocco was very recently nominated to replace Commissioner Robinson, whose term expires this October. Both of these developments we believe are positive for the fireworks industry, although AFSL has long had a very positive and cooperative relationship with all the key leaders and staff at the CPSC, which we anticipate will continue to be the case.

Comments or questions regarding this article may be sent to: afslhq@afsl.org.

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