AFSL General Membership Meeting

San Diego, CA
October 4, 2017

AGENDA FOR MEETING

I. Report from the Board of Directors
– Michael Ingram, President

II. Election of Directors – John Rogers

III. Financial Report – Tad Trout, Treasurer

IV. Update on CPSC Proposed Rulemaking – Quin D. Dodd

BREAK

V. Report on Consumer Fireworks Testing Program

VI. Modifications to AFSL Standards

VII. Election Results

VIII. Questions/Answers

I. Report from the Board of Directors

- Michael Ingram, President

II. Election of Directors

- John D. Rogers, Executive Director

Election Candidates

a. Consumer Importer/Distributor/Retailer Category:
Glenn Davis – Ches-Lee Enterprises

Tad Trout – American Promotional Events, Inc. – West

Alan Zoldan – Phantom Importing & Distributing, LLC

b. Consumer Shipper Category:
Joe Wan – Shogun Pyrotechnics

c. Display Company Category:
Michael Cartolano – Melrose Pyrotechnics, Inc.

III. Financial Report

- Tad Trout, Treasurer

IV. Update on CPSC Proposed Rulemaking

- Quin D. Dodd

John D. Rogers

Chuck Rogers

Status of CPSC

- Acting Chairman Ann Marie Buerkle reported out (narrowly approved—14 to 13) by the US Senate Commerce Committee today (October 4); If confirmed by full Senate, her term as Chairman will expire in October 2025…confirmation likely
- Term of Commissioner Marietta Robinson (D) up this month; President just nominated Dana Baiocco (R) to replace her…unclear when an R majority will occur
- Either way, prospects are good for final rule approval on Notice of Proposed Rulemaking (NPR)

Background to Notice of CPSC Proposed Rulemaking (NPR)

- AFSL/APA advocating for more even regulatory playing field for many years
- AFSL Standards and APA/DOT 87-1 limits break charges in aerial devices to “black powder or equivalent”
- 2016 – Commissioner Mohorovic promotes Statement of Policy to interpret “intended to produce audible effect” as meaning powder in break charges – submitted for public comment but deferred in favor of broader regulatory approach
- February 2017 – NPR issued for public comment
- Final Rule could come in Q1 of 2018 -- Effective date unknown (AFSL/APA have advocated for six-months)

1. Metal Composition in Break Charges.

- CPSC proposal (new 16 CFR § 1500.17(a)(3)(i), declares as a "banned hazardous substance":

"Fireworks devices that contain a burst charge containing metallic powder less than 100 mesh in particle size . . . If the burst charge is produced by a charge of more than 2 grains (~130 mg) of pyrotechnic composition."

1. NPR: Metal Composition in Break Charges.

- Drops all reference to "intended to produce audible effect"

- 1 percent proposed "contamination" allowance of fine mesh metals (less than 100 mesh/149 microns) IF break charge exceeds 2 grains (130 mg) – CPSC WILL exercise "enforcement discretion" to not fail aerials

- (AFSL/APA advocating for two percent REGULATORY allowance).

- Other "prohibited chemicals" will still apply

- CPSC will use x-ray fluorescence (XRF) to screen and may use ICP (wet chemistry) for final product evaluation (where XRF results are close)

- This language is consistent with the APA/DOT 87-1 and AFSL burst/break charge provisions (including pending new 87-1a

- This composition standard would replace CPSC's current test for determining if a device is intended to produce an audible effect ("Ear Test").

2. New CPSC standards would also adopt other, current APA/AFSL limitations for aerial devices (§3.1.2.5 and 3.1.2.6):

- No fine mesh metals in lift charges

- Mine and shell: 60 g total per tube composition limit; 20 g lift charge limit; 200 g total limit for multiple tube devices.

- Reloadable tube: 60 g limit per shell; 20 g lift charge limit; break charge may not exceed 25% of total composition; 400 g total composition limit per kit.

Other Provisions of CPSC NPR:

- Adoption of 87-1 (same as or similar to AFSL) composition limits on various fountain devices, torches, wheels, and chasers.

- Clarifies that firecrackers are subject to 50 mg limit, regardless of "whether intended to produce audible effects.

- Revises and expands CPSC "prohibited chemicals" list to specifically limit to no more than 0.25% (to allow for contamination).

- Adds HCB (0.01%) and lead (tetroxide and other lead compounds greater than 0.25%) to CPSC prohibited chemicals list.

Other Provisions of CPSC NPR, cont.:

- Formally adopts the CPSC side ignition test (similar to APA/AFSL) as a mandatory standard.
- Adds to CPSC base dimension requirements by requiring that bases remain attached during handling, storage and operation (similar to APA/AFSL).
- Adopts APA/AFSL general prohibition on “burnout” and “blowout” of fireworks.
- Adopts APA/AFSL prohibition of projection of “metal, glass or brittle plastic fragments”.

Other Provisions of CPSC NPR, cont.

- Clarifies that "aerial bombs" are banned ("a tube device that fires an explosive charge into the air without added visual effect".

- Adopts other APA definitions of: explosive; pyrotechnic composition; firecracker; burnout; blowout; and base.

All Other CPSC Requirements.

- All other provisions of the CPSC regulations will remain in effect and unchanged, including: Fuse Burn Time; Pyrotechnic Leakage; Tilt Block Requirements; Base/Height Ratio, etc.

Myths and Facts

Myth: Large percentage of aerials currently on market will fail one or two percent metal powder limit

Fact: AFSL (BV) tested over 1,700 current AFSL products and found pass rate of 80 – 90 percent at 2% limit; slightly lower at 1%

Myth: Contamination from effects (stars) causes high metal levels in break charge

Fact: This is contrary to experience of both AFSL and CPSC lab staff

Myths and Facts

Myth: XRF yields incorrect results, including false positives

Fact: Both AFSL (BV) and CPSC lab have coorelated XRF to ICP (wet chem) and found consistent results at low (1/2%) measurement level

Myth: There is no correlation between break charge energy and consumer risk

Fact: High levels of metal powder greatly increases explosive strength (3% increase for every 1% increase in metal powder) and puts consumers at significant risk in event of a malfunction or misuse and NO fireworks standard has been or can be proven to reduce risk by x

AFSL/APA Comments

- AFSL/APA strongly support the provision prohibiting fine mesh metal powders in aerial break charges.
  - It will enhance the safety of aerial devices by reducing the risk of catastrophic injuries from malfunctions and misuse;
  - The proposal would eliminate the “ear test” and minimize the risk of products failing in the US that have been certified by AFSL;
  - The proposal will make the CPSC requirements consistent with existing DOT requirements.

AFSL/APA Comments, cont.

- AFSL/APA strongly support adoption by the CPSC of existing composition limits and ratios contained in the 87-1/DOT requirements.
  - Such limits are necessary and reasonable to help enhance the safety and enjoyment of these consumer fireworks;
  - They would impose a minimal compliance burden since they are already mandated by the Department of Transportation and are currently tested and certified to by the large majority of U.S. fireworks importers.

AFSL/APA Comments, cont.

- A copy of the complete AFSL/APA Comments is available on the AFSL website: www.afsl.org.

- The Comments are also available at the following: http://afsl.org/newsletters.

Proposed Test for Fine Mesh Metal Powder Using XRF Scanner

- Equipment: Niton XL3t XRF Analyzer

Summary of AFSL Testing

Chuck Rogers

AFSL Program Manager

Bureau Veritas Consumer Product Services


Thermo


Thermo
MOBILE TEST STAND


133 矿石铜/锌
导航 工具
时间 71.6 sec
Ele
±2σ
Bal 51.60 0.52
Cl 45.73 3.33
Mn 1.96 0.25
Fe 0.235 0.080
Cu 0.468 0.018
Rb 0.002 0.001
CAUTION
HIGH INTENSITY X-RAY BEAM

XRF Screening Test for Fine Mesh Metal Power Video

Summary of AFSL XRF Scanner Tests

- 1000 in 2016, 600 in 2017.
- From both Reloadable Tube Aerial Shell Devices and Mine and Shell Devices.
- Samples were selected from normal AFSL testing lots.
- Break charges were removed from products without identifying the product name.
- Samples were numbered, secured and sent to BV office for analysis .

Summary of AFSL XRF Scanner Tests

- Test was conducted under the supervision of BV chemical expert and representative from the scanner manufacturer.
- The scanner model is identical to the one which CPSC is using.
- Test procedure followed were identical to those recommended by CPSC.

2016 AFSL Testing Results

MSDV				
% of Specified Metal	Number of Samples (Al)	% of Samples	Number of Samples (Mg)	% of Samples
<LOD	203	34.00%	560	93.80%
0-1%	186	31.16%	0	0.00%
1-2%	58	9.72%	13	2.18%
2-3%	74	12.40%	21	3.52%
3-4%	47	7.87%	3	0.50%
4-5%	17	2.85%	0	0.00%
5-10%	12	2.01%	0	0.00%
Total	597	100.00%	597	100.00%

2016 AFSL Testing Results

RTAS				
% of Specified Metal	Number of Samples (Al)	% of Samples	Number of Samples (Mg)	% of Samples
<LOD	250	49.02%	470	92.16%
0-1%	166	32.55%	0	0.00%
1-2%	26	5.10%	7	1.37%
2-3%	28	5.49%	26	5.10%
3-4%	15	2.94%	6	1.18%
4-5%	10	1.96%	1	0.20%
5-10%	15	2.94%	0	0.00%
Total	510	100.00%	510	100.00%

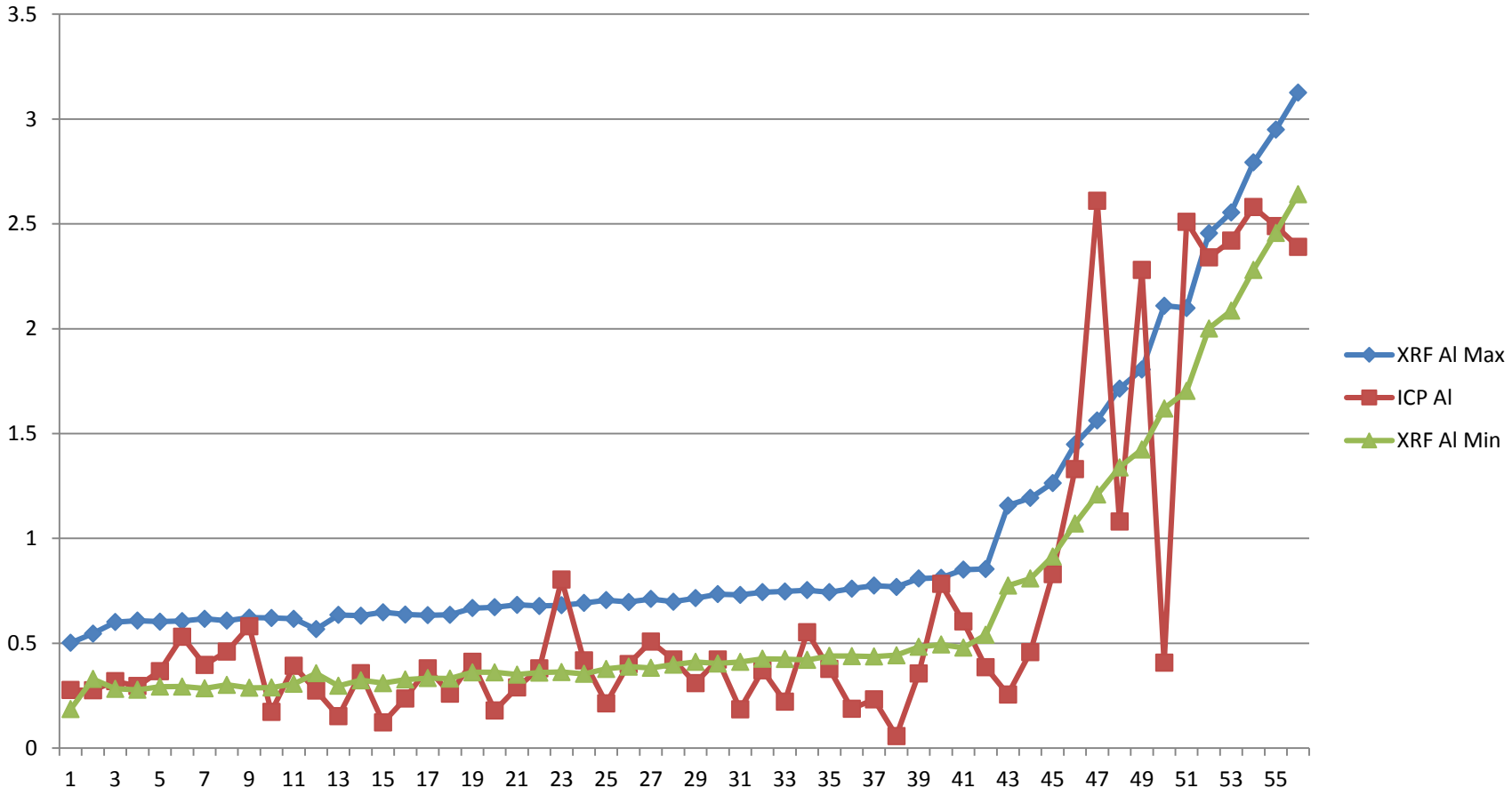
2017 AFSL Testing Results

MSDV				
% of Metal	Number of Samples (Al)	% of Samples	Number of Samples (Mg)	% of Samples
<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%		

2017 AFSL Testing Results

RTAS				
% of Metal	Number of Samples (Al)	% of Samples	Number of Samples (Mg)	% of Samples
<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%

Summary of AFSL ICP Test Results



Test Results for Four Companies

- FOA, TNT, Phantom, and Winco contracted with BV to conduct XRF Scanning on selected aerial devices.
- Purpose: To determine level of compliance with the proposed Metal Powder Limit.
- Costs were paid by individual companies, not AFSL.
- Results are as follows:

Results for Individual Companies

% of Metal	Number of Samples (Al)	% of Samples	Number of Samples (Mg)	% of Samples
<LOD	27	34.2%	76	96.2%
0-1%	44	55.7%	0	0.00%
1-2%	3	3.8%	0	0.00%
>2%	5	6.3%	3	3.8%

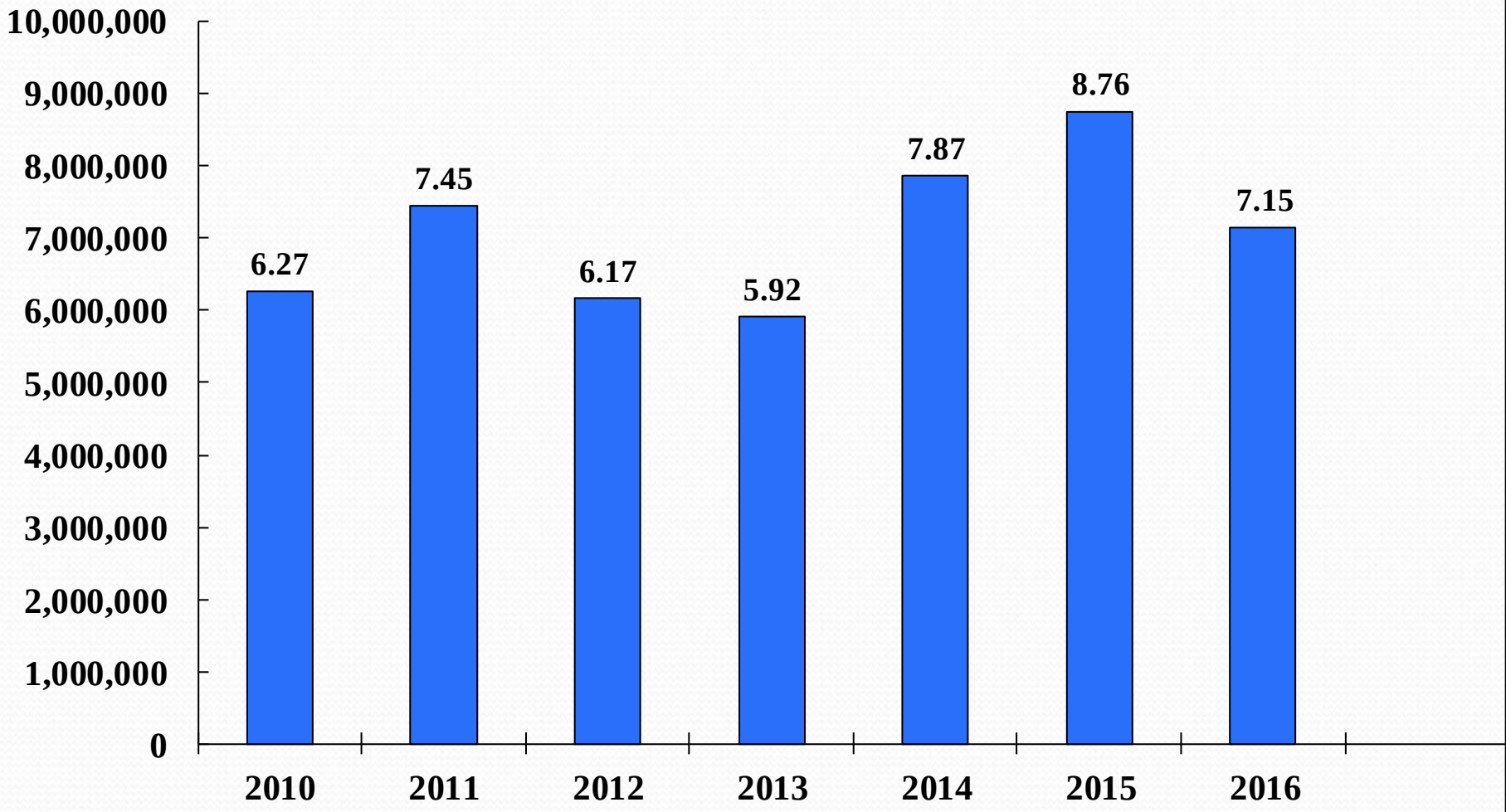
BREAK

V. Report on Consumer Fireworks Testing Program

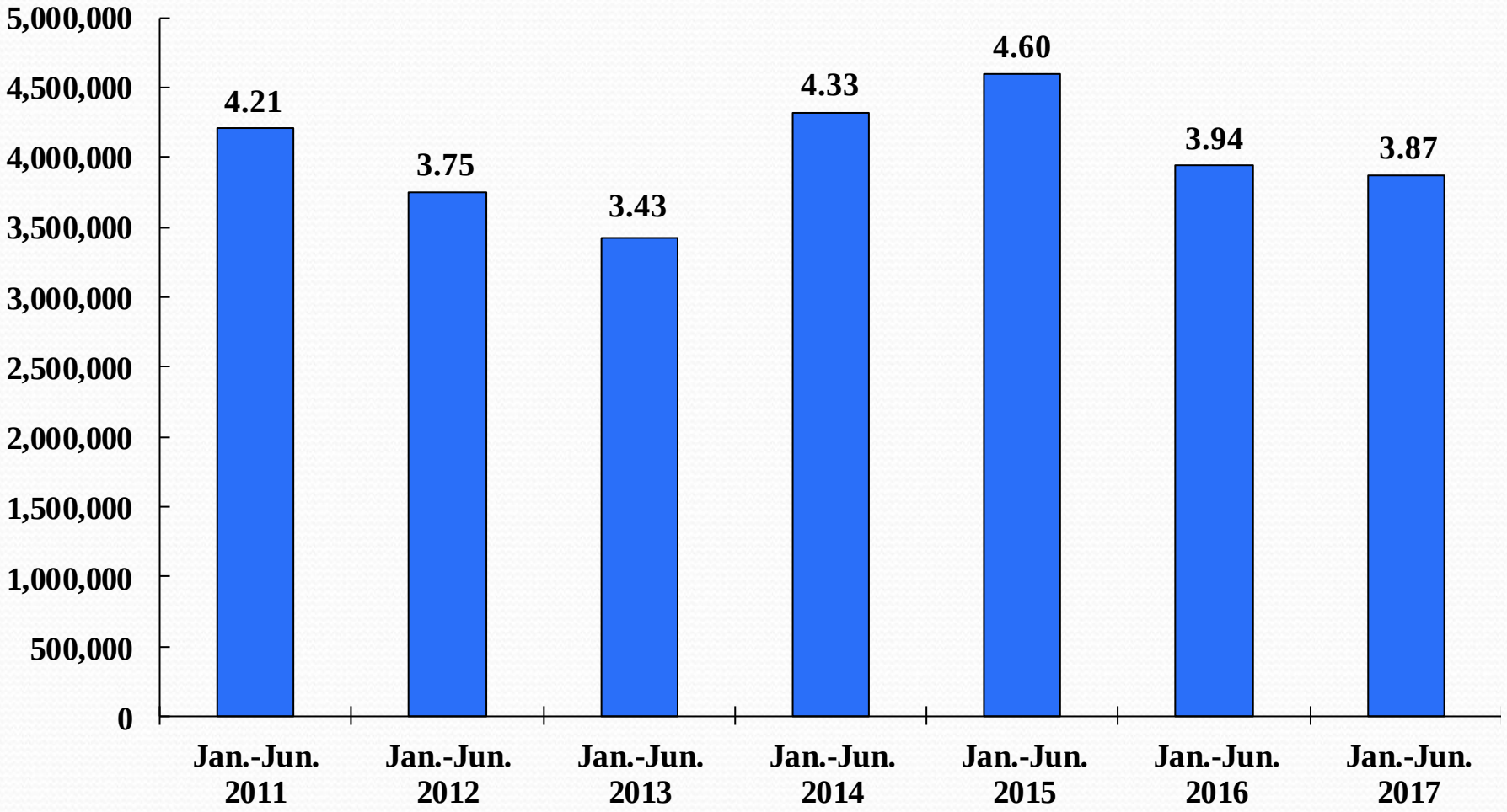
A. Summary of AFSL Test Results

- John D. Rogers, Executive Director

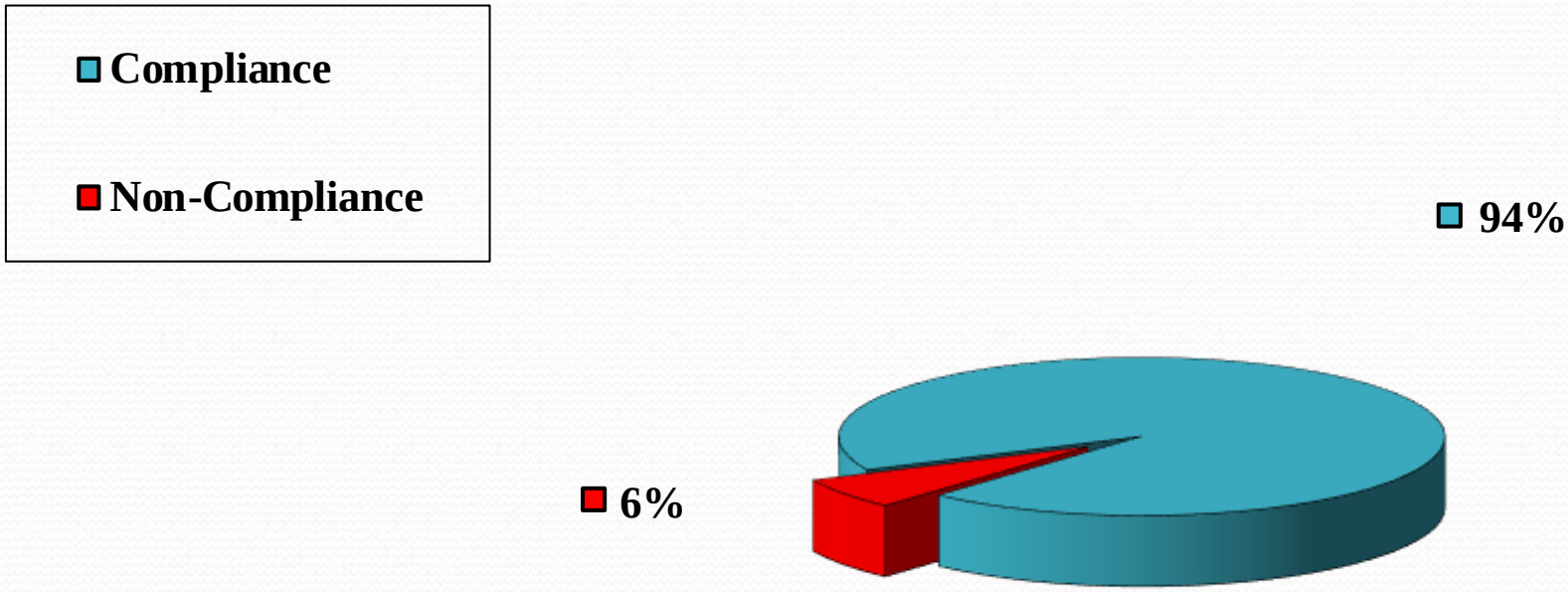
CASES TESTED BY YEAR 2010 -2016
Quality Improvement Program



CASES TESTED BY YEAR
January – June 2011-2017

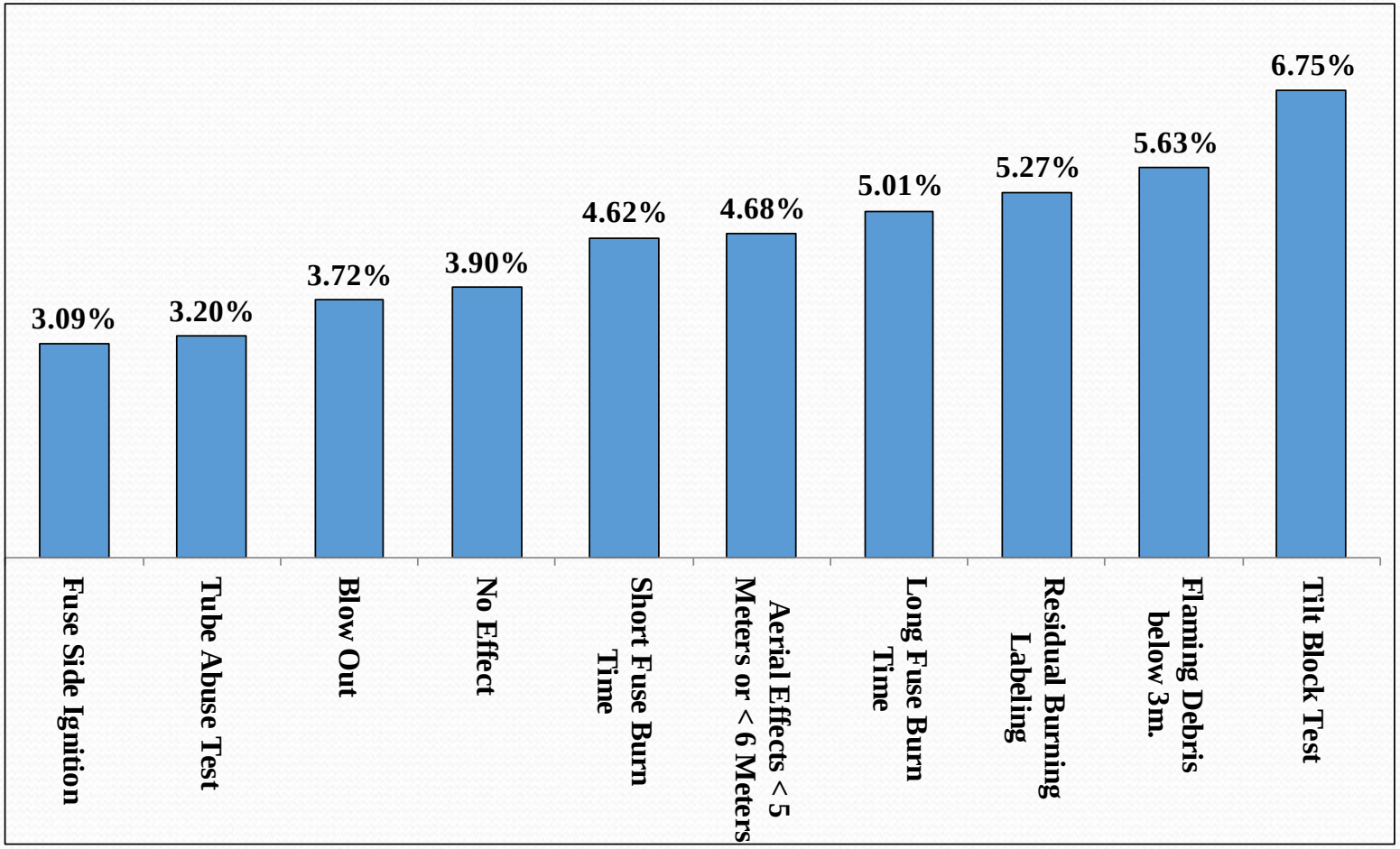


COMPLIANCE RATE HALF YEAR 2017
QUALITY IMPROVEMENT PROGRAM



Complying Cases: 3.63 million cases (include 109,737 component cases).
Non-Complying Cases: 247,880.
Total Cases: 3.87 million cases (include 111,487 component cases).

TOP 10 VIOLATIONS HALF YEAR 2017
Percentage of Total Violations



B. Summary of CPSC Test Testing Data

- Jason Ng, CPSC

C. Summary of Audits Conducted at Importer Warehouses

- Jerry Wingard, Project Manager

Domestic Audit Phase III

- Phase III started on March 12, 2015 with follow-up audits of companies that were not fully in compliance during Phase I and II. 91 companies are slated for re-audits.

Domestic Audits Phase III

- 39 companies have been re-audited.
  - 11 Companies had corrected all of their previous violations and had no issues.
  - 14 Companies had issues with imported fireworks.
    - (6 of these also had issues with domestic fireworks).
  - 11 Companies had issues with domestic fireworks.

- 2 Companies have been suspended.
- 1 Company did not provide all the information to complete the audit and is pending suspension.
- 5 Did not respond to audit request and are pending suspension.
- 2 Companies are no longer in business.

Corrective Actions for Companies with Continuing Violations.

- Thirteen companies recommended for corrective action for issues with imported or domestic fireworks.
- Five companies recommended for corrective actions related to issues with domestic products Only.
- These letters are pending issuance.

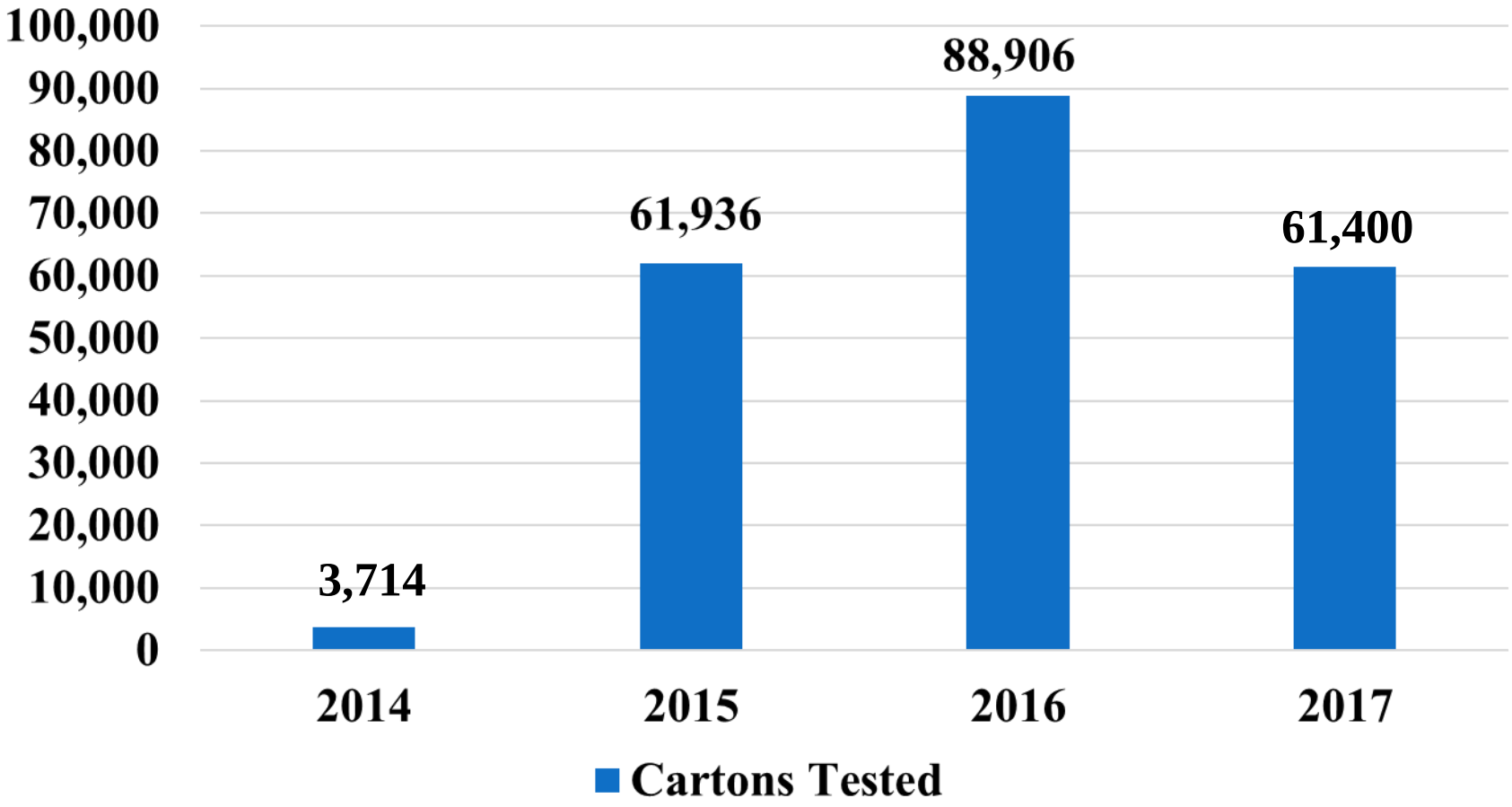
- Fifteen companies have received Corrective Action Letters.
  - Eleven have responded to these letters.
  - Two have not responded.
  - One company did not receive a letter because untested items found during Phase III were identified in phase II.
  - One had mail issues.

Actions and Recommendation for Corrective Actions for Shippers with Continuing Violations.

During the audits issues found with Shippers have been addressed.

- One shipper has received a letter of suspension.
- Twenty-five shippers are being recommended for action.

Number of Cartons Tested thru the Domestic Testing Program



VI. Modifications to AFSL Standards

- John D. Rogers, Executive Director

Standard for Fuseless Firecrackers

"Section 1-1.4 This standard applies only to devices that have been approved and assigned a transportation classification of fireworks UN0337, 1.4S by the U.S. Department of Transportation."

"Section 2-1.6 The explosive composition for a single fuseless firecracker must not exceed 50 milligrams."

"Section 2-1.10 Individual fuseless firecrackers must not ignite when dropped onto concrete or equivalent non-yielding surface or asphalt from a height of two (2.0) feet ."

Standard for Fuseless Firecrackers

"Section 2-1.13 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."

"Section 2-1.14 No more than one (1) fuseless firecracker shall ignite inside a sealed retail package when the package is dropped onto a concrete or asphalt surface from a height of 5 (5.0) feet."

Standard for Fuseless Firecrackers

"Section 3-2.3 Individual fuseless firecrackers with outside diameter greater than 1/4" must bear the following identification.

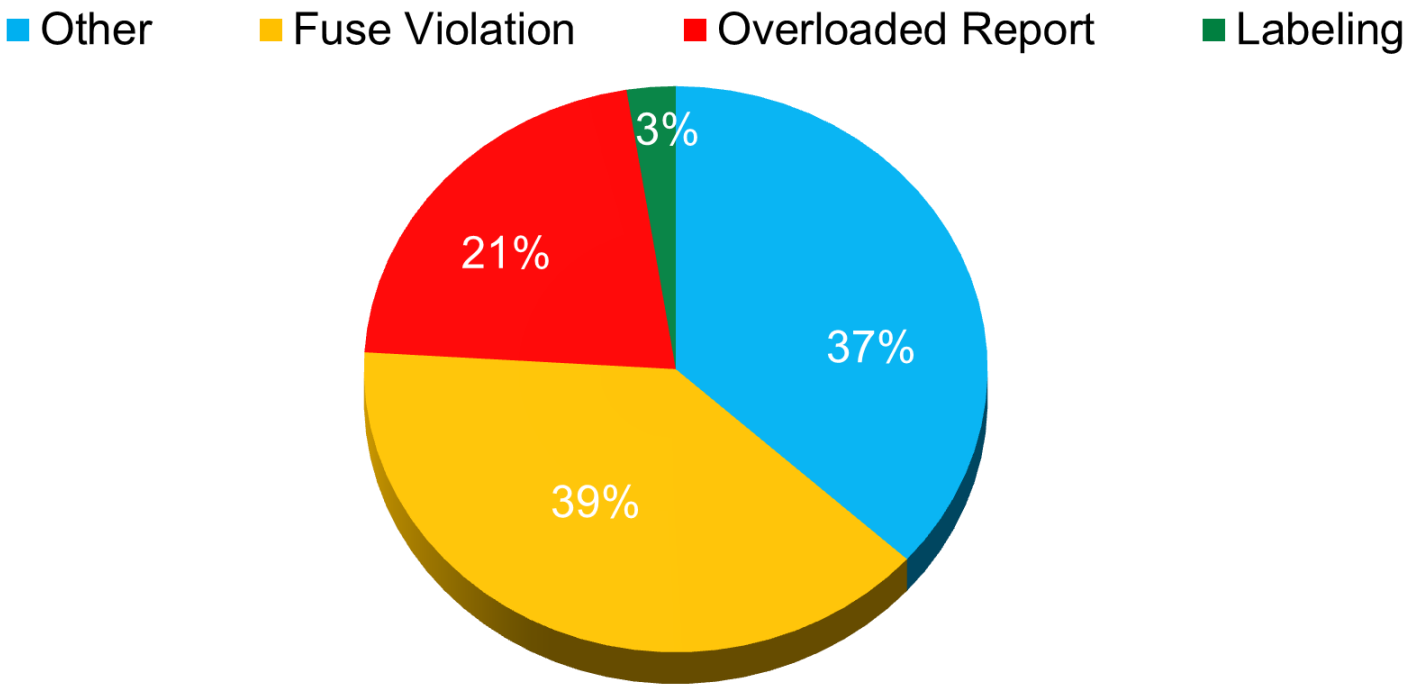
Consumer Fireworks 1.4S

"

"Section 4-1.2 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."

Effective Date: April 1, 2017.

CPSC Fireworks Violations FY16



Requirements for Fuses

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

Effective Date: April 1, 2017.

AFSL Monitoring of Fuse Tests

- AFSL has requested that BV begin recording all tests related to fuses, including fuse burn time, fuse side ignition, and fuse attachment.

- AFSL is working with a fuse manufacturer in China to develop design/performance specifications for fuses.

VII. Election Results

- John D. Rogers, Executive Director

VIII. Closing Remarks

- Michael Ingram, President

www.afsl.org

THANK YOU!