

# **AFSL CONSUMER FIREWORKS SEMINAR**

**美标所消费品烟花研讨会**

**May 17, 2017**

**Liuyang, China**



# I. Introduction. 开幕辞

- John D. Rogers 罗杰士

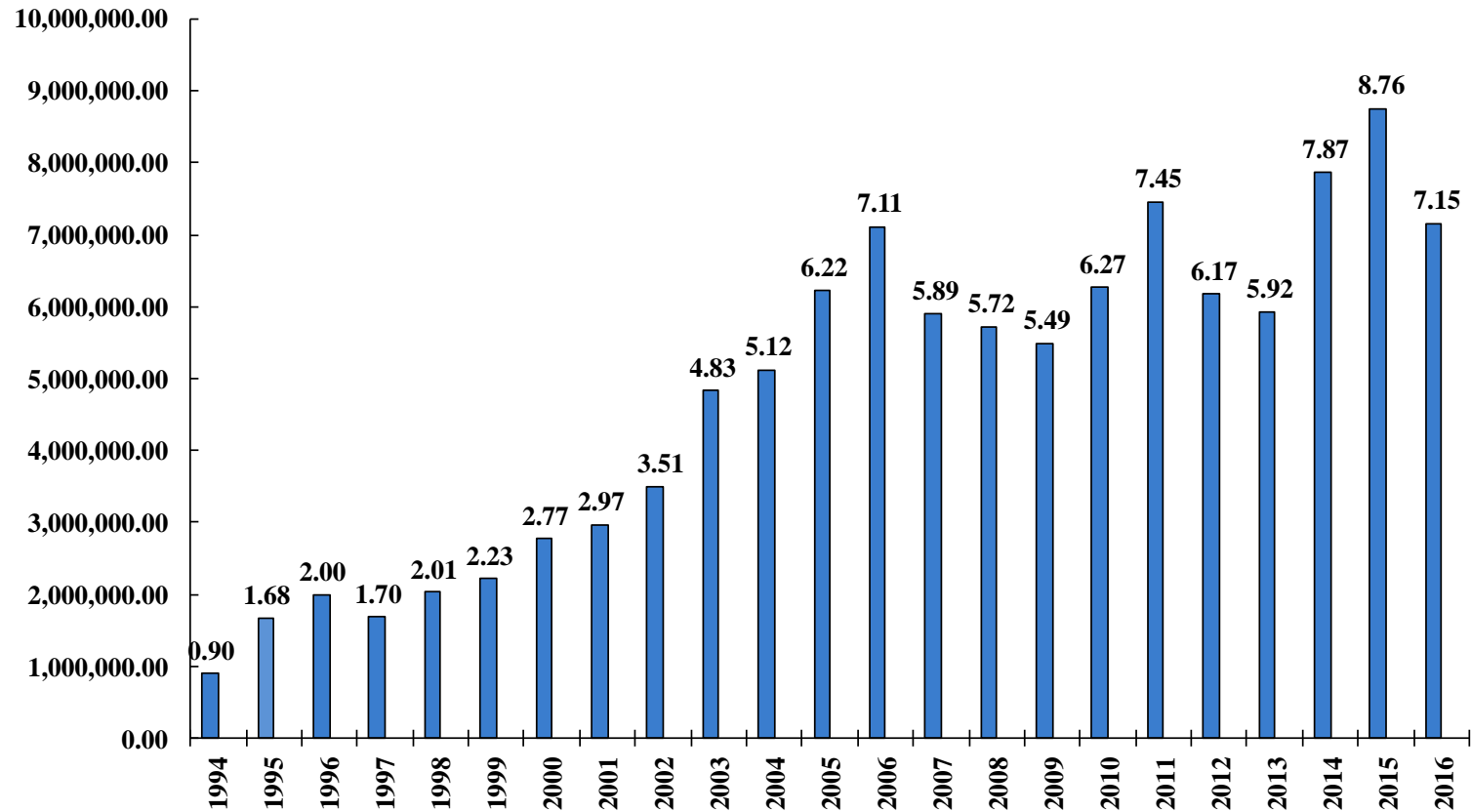
## **II. Review of AFSL Activities. 美标所近况**

- John D. Rogers 罗杰士

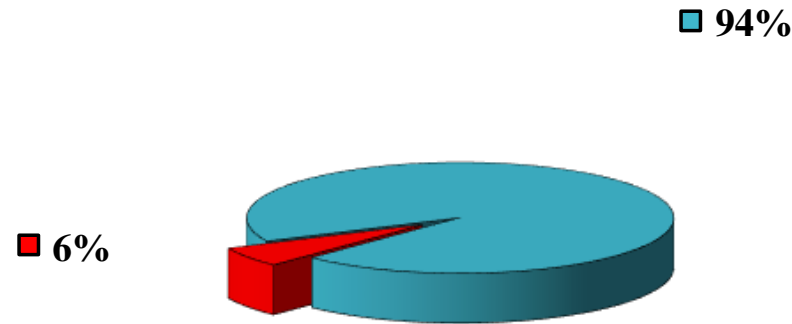
## A. AFSL Testing Program Results. 测试项目概况

# CASES TESTED BY YEAR 1994-2016

## Quality Improvement Program



# COMPLIANCE RATE QUALITY IMPROVEMENT PROGRAM 2016



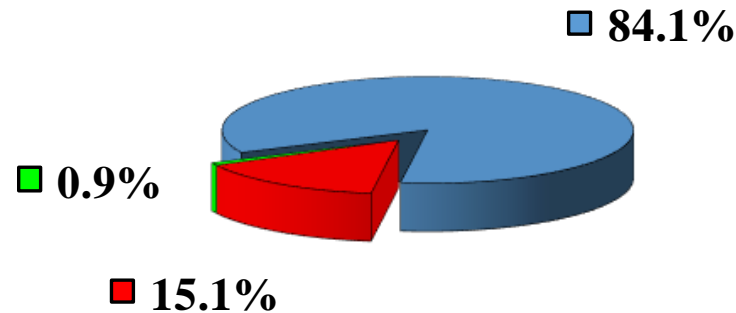
**Complying Cases: 6.73 million (includes 61,000 component cases).**

**Non-Complying Cases: 419,000 (includes 500 component cases).**

**Total Cases: 7.15 million cases.**

# REGULAR, ASSORTMENT, AND COMPONENT 2016

■ Regular ■ Assortment ■ Component



**Cases tested for Regular Program: 6.01million cases.**

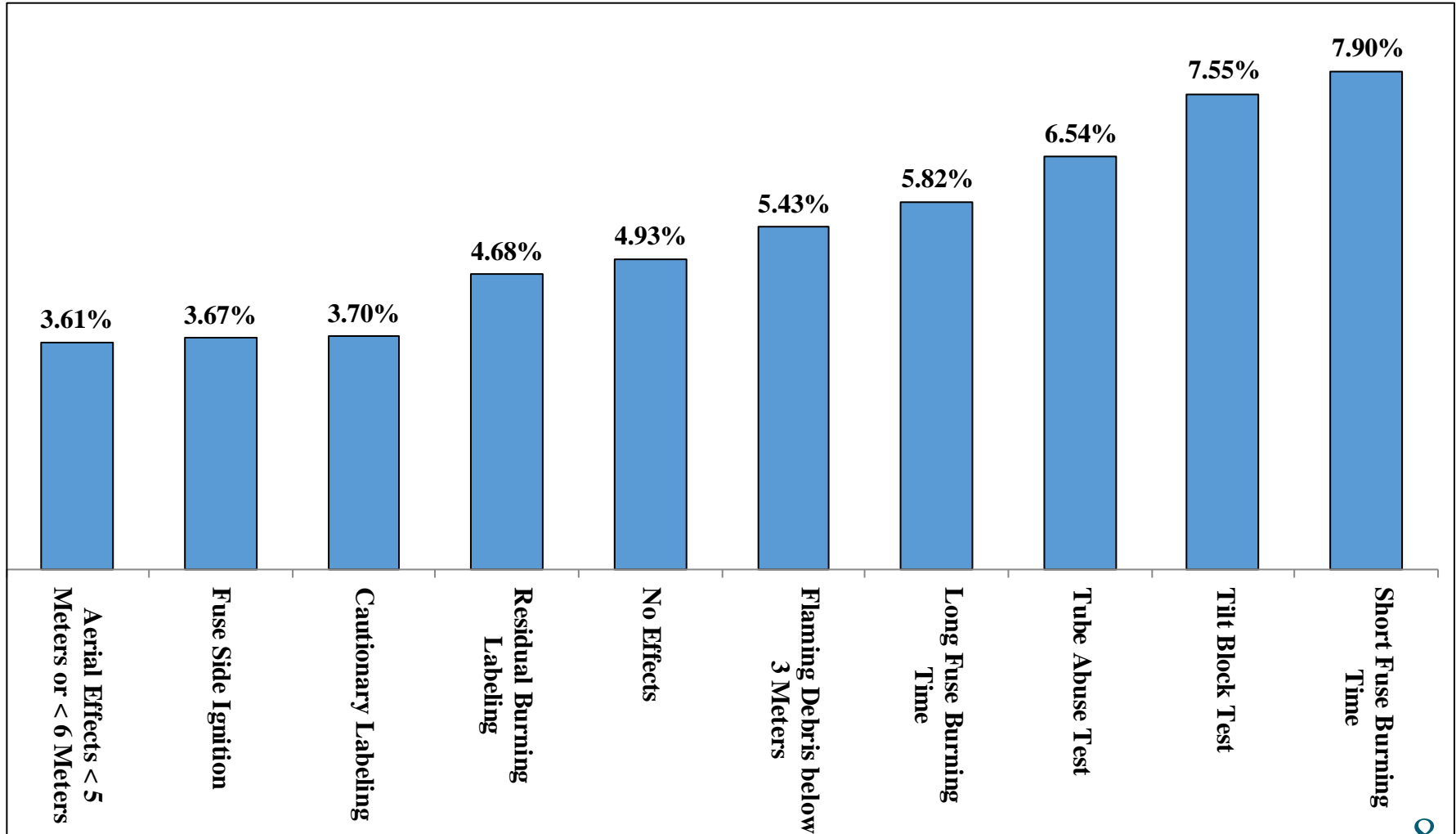
**Cases tested for Assortment Program: 1.08 million cases.**

**Cases tested for Component Program: 61,443 cases.**

**Total Cases: 7,148,541.**

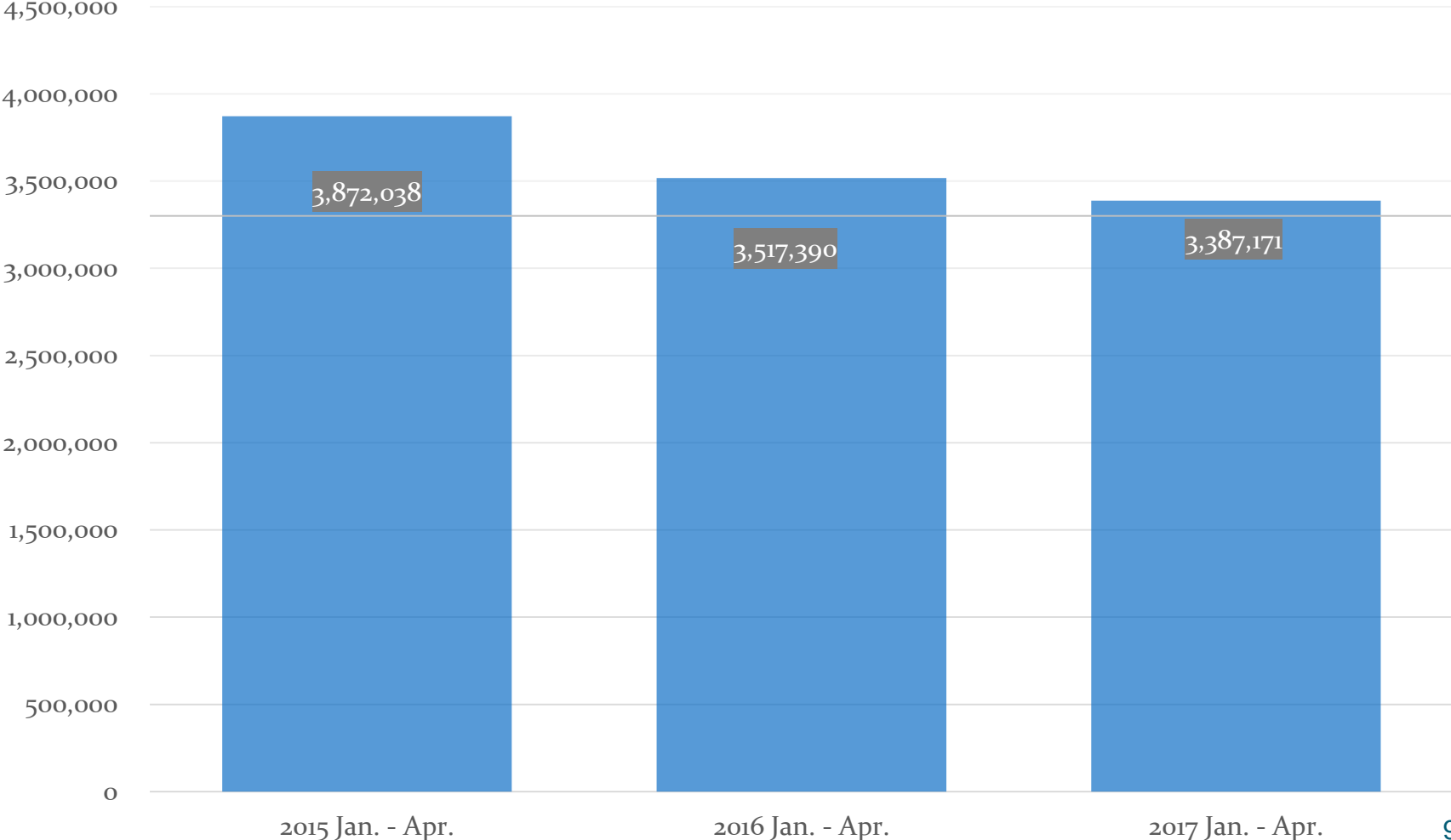
# TOP 10 VIOLATIONS 2016

## Percentage of Total Violations





# Cases Tested by Year 2015 – 2017 一月到四月总量对比 Jan. – Apr.



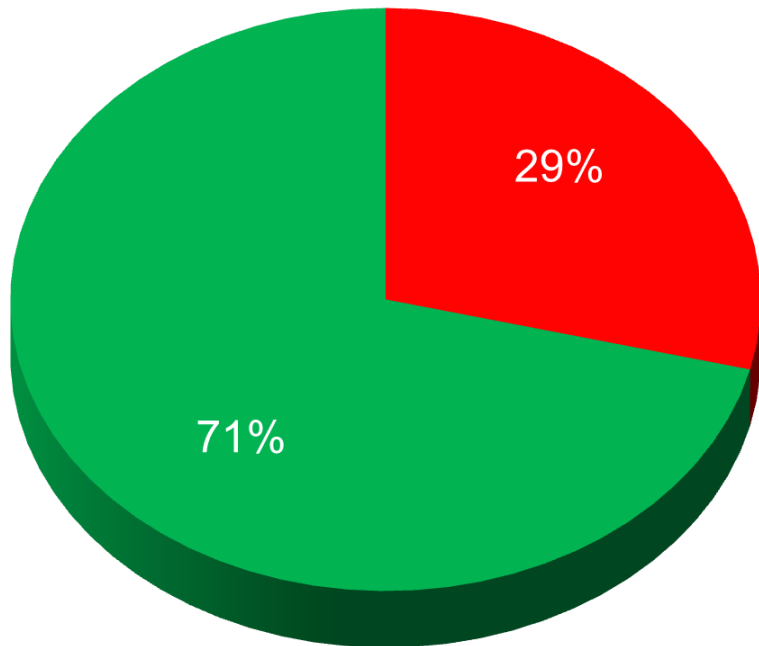


- B. CPSC Testing Results 消委会测试结果

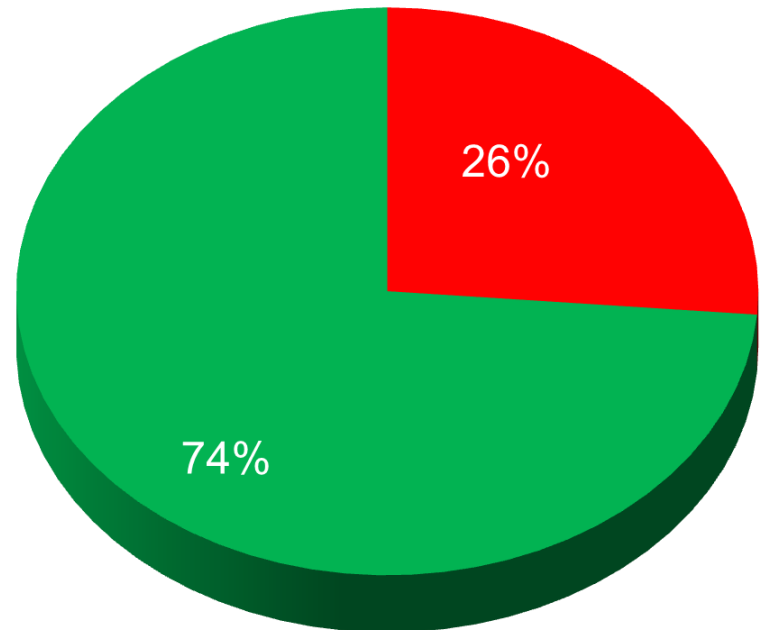
# CPSC Fireworks Samples FY15 年度样品

■ Non-Compliant    ■ Compliant

AFSL  
(39% of samples)



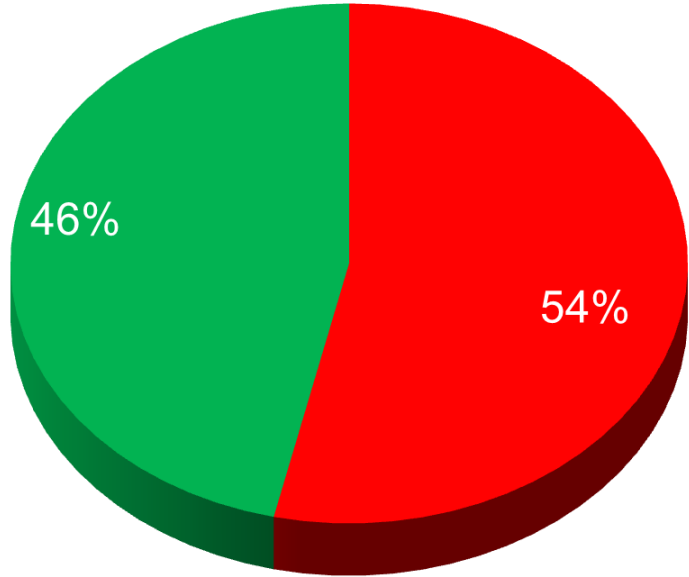
Non-AFSL  
(61% of samples)



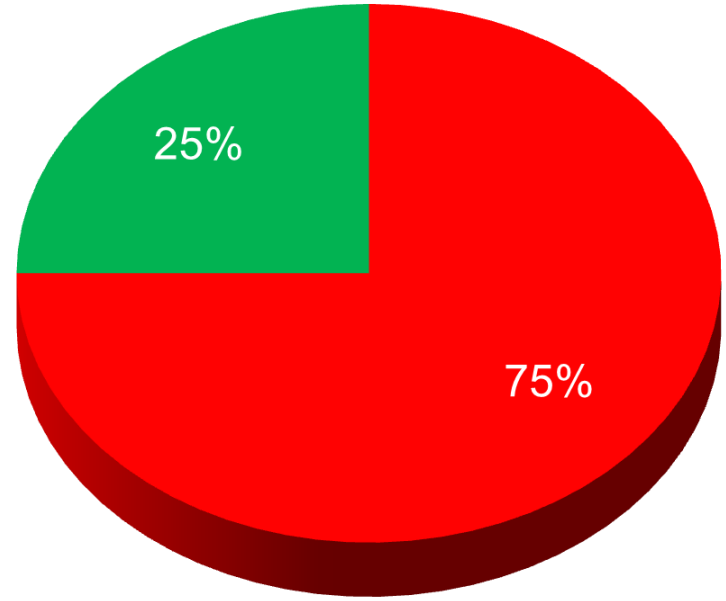
# CPSC Non-Compliant Fireworks FY15 年度违规

■ Significant      ■ Correct Future Production

## AFSL

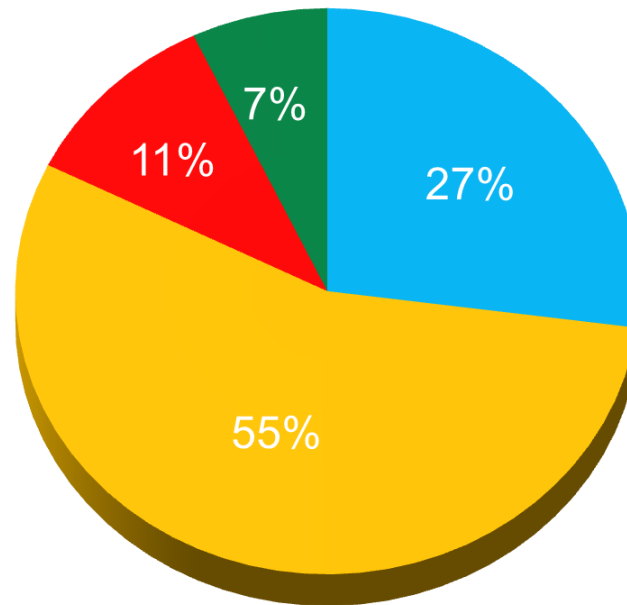


## Non-AFSL



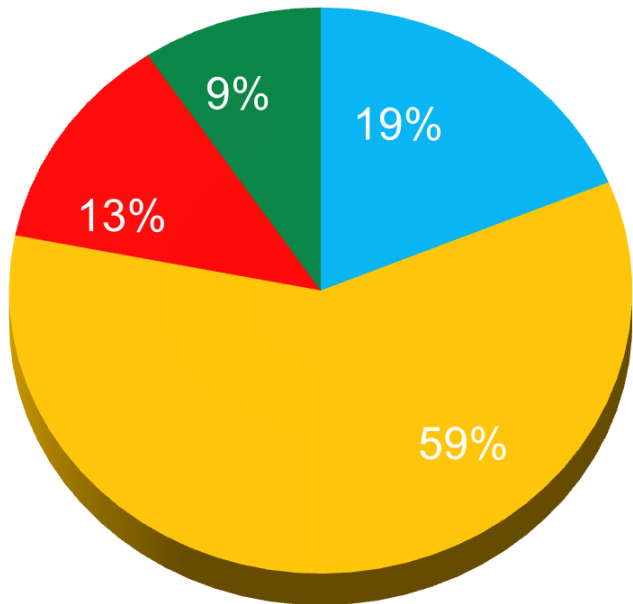
# Fireworks Violations FY15 年度违规

■ Other    ■ Fuse Violation    ■ Overloaded Report    ■ Labeling



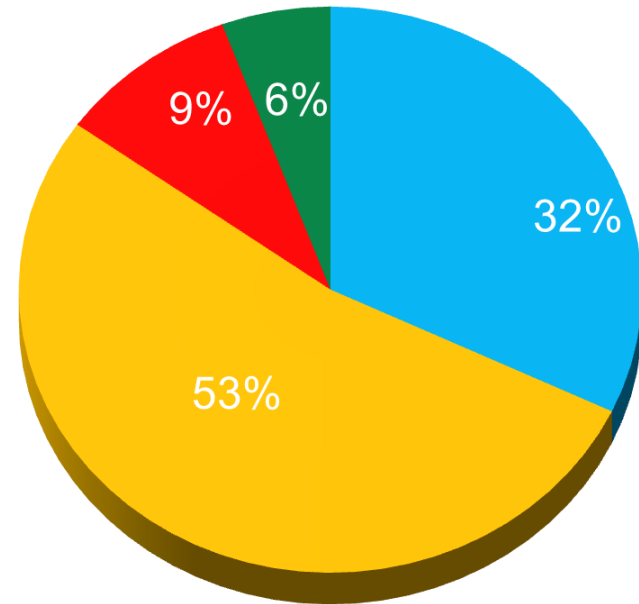
# Fireworks Violations FY15 年度违规

AFSL  
(38% of violations)



■ Other    ■ Fuse Violation

Non-AFSL  
(62% of violations)

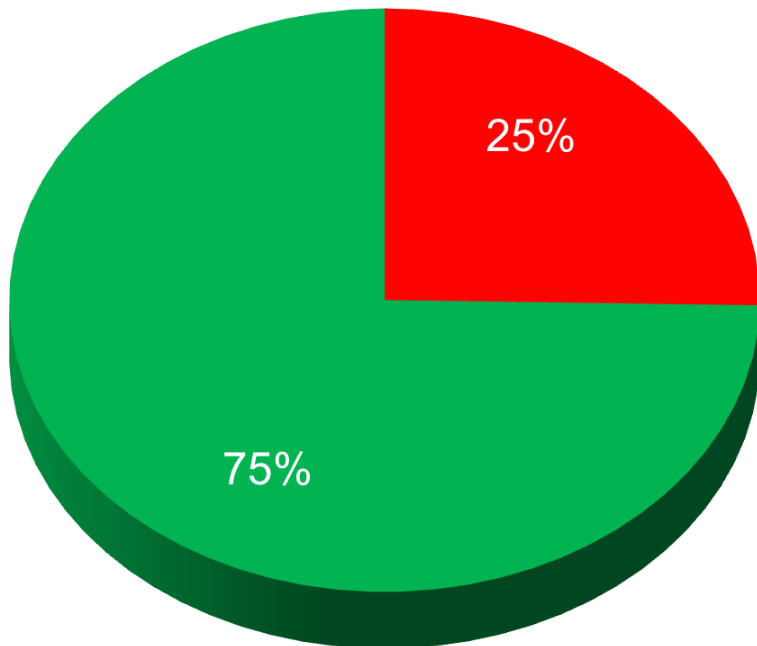


■ Overloaded Report    ■ Labeling

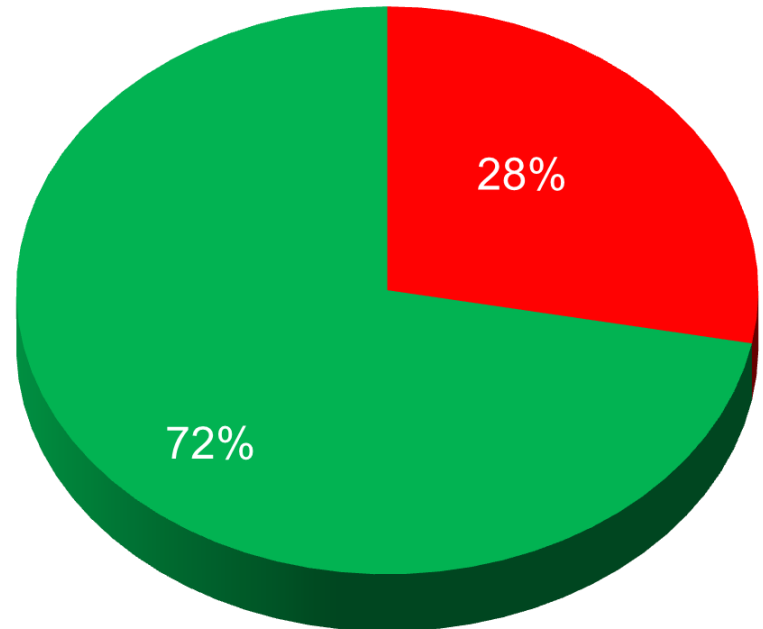
# CPSC Fireworks Samples FY16 年度样品

■ Non-Compliant    ■ Compliant

AFSL  
(37% of samples)



Non-AFSL  
(63% of samples)

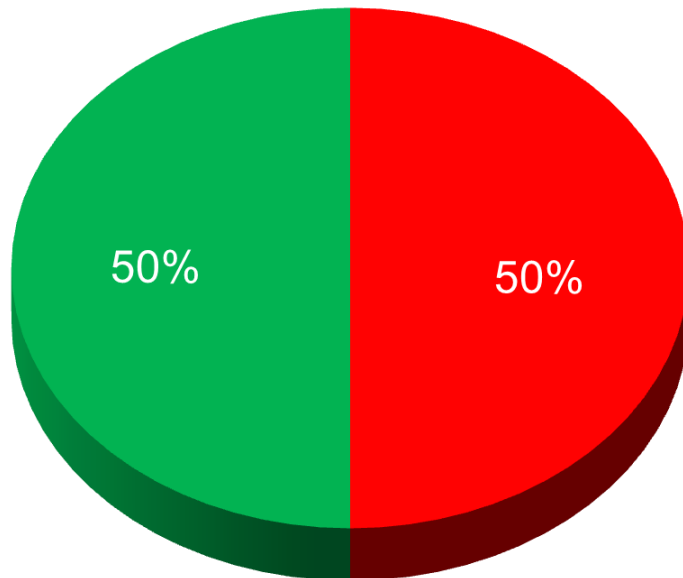


# CPSC Non-Compliant Fireworks FY16 年度违规

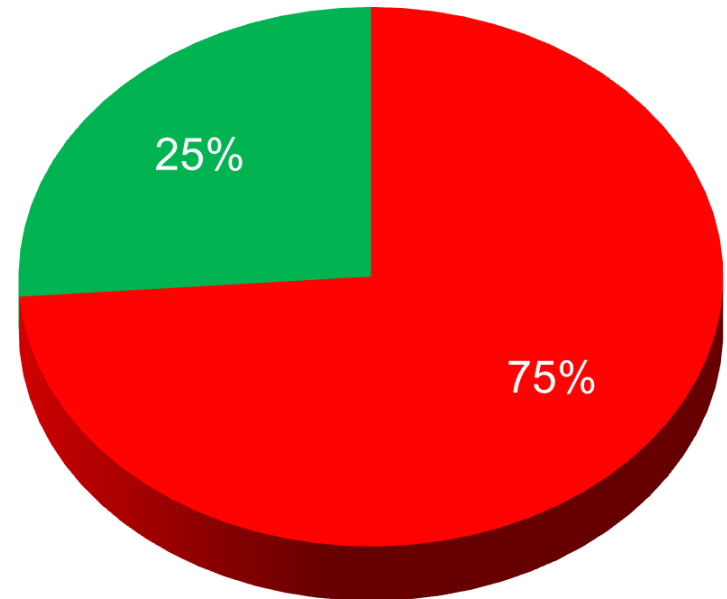
■ Significant

■ Correct Future Production

## AFSL



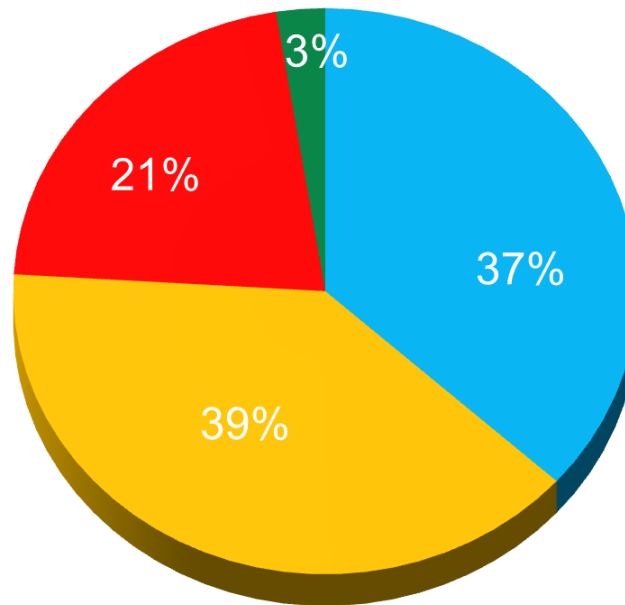
## Non-AFSL





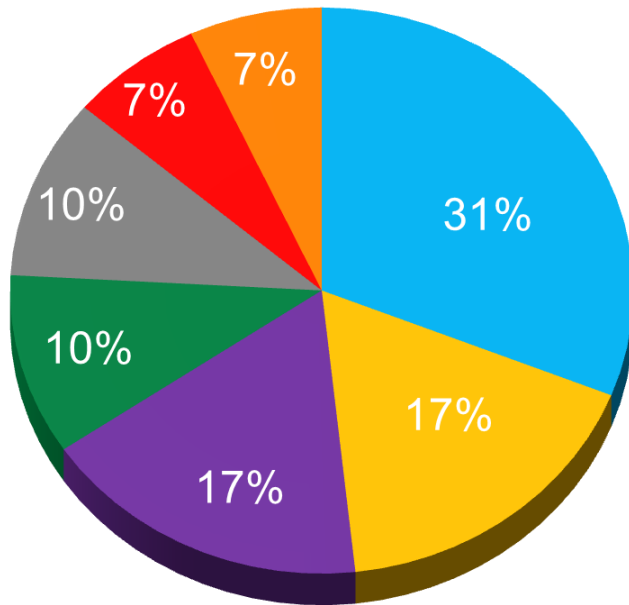
# Fireworks Violations FY16 年度违规

■ Other    ■ Fuse Violation    ■ Overloaded Report    ■ Labeling

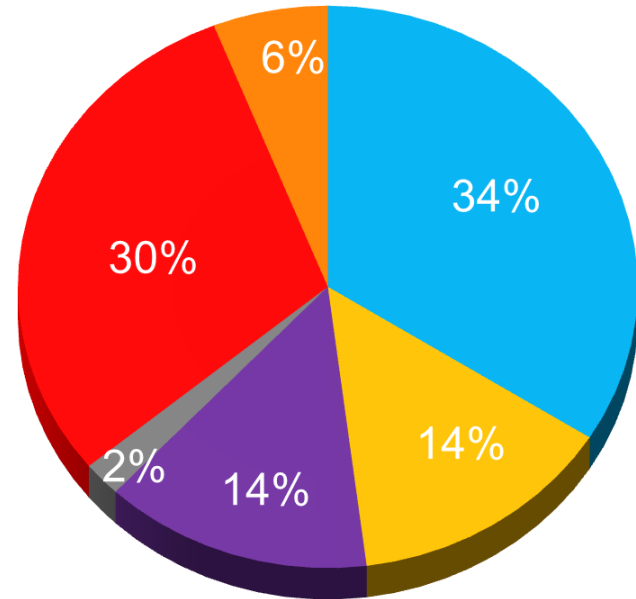


# Fireworks Violations FY16 年度违规

AFSL  
(37% of violations)



Non-AFSL  
(63% of violations)



- Other
- Fuse Attachment
- Labeling
- Long Fuse Burn Time
- Fuse Side Ignition
- Short Fuse Burn Time
- Overloaded Report

# CPSC Proposed Rulemaking

## 消委会修例提案

# 1. Metal Composition in Break Charges.

## 开爆药里的金属成分

- 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.”*

提案建议禁止烟花使用含有小于一百目金属粉的开爆药超过130毫克。

# 1. Metal Composition in Break Charges.

## 开爆药里的金属成分

### Note:注

- Drops all reference to “intended to produce audible effect” 取消声响限制
- 1 percent proposed “contamination” allowance of fine mesh metals 允许1%杂质污染
- Other “prohibited chemicals” will still apply 其它禁用化学品依旧
- CPSC will use x-ray fluorescence (XRF) to screen and ICP (wet chemistry) for final product evaluation 用X射线荧光色谱扫描和ICP化学分析来测定

Accompanied by indication that the agency will exercise “compliance discretion” to allow up to 1 percent, by weight, of fine mesh metal “contaminants” in burst charges). 将会允许1%重量的杂质污染。

- Replace the “intent to produce audible effect” language of 1500.17(a)(3) with the APA 87-1 and AFSL burst/break charge composition limit of 2 grains (130 milligrams) for compositions containing metallic particles (like magnalium or aluminum) less than 100 mesh (149 microns) in size.

取消法规1500.17(a)(3)条款中“意图产生听觉效果”的用语，采用APA 87-1和美标所以对开爆药成分的限制，如果含有颗粒尺寸小于100目的金属粉末（如铝镁合金或铝）则总量不能超过2格令（130毫克）。

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

这一对成分的标准要求将取代消委会目前使用的听觉判断方法

## 2. New CPSC standards would also adopt other, current APA/AFSL limitations for aerial devices (§3.1.2.5 and 3.1.2.6): 还将采用美标标准中的下列条例限制

- No fine mesh metals in lift charges 发射药不含金属粉
- Mine and shell: 60 g total per tube composition limit; 20 g lift charge limit; 200 g total limit for multiple tube devices  
地礼：每管60克药；20克发射药；200克总药量
- 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

重复装填小炮弹：每弹60克药；20克发射药；开爆药占比25%；每盒400克总药量



## Other Provisions of CPSC NPR:

### 其它修例

- Adoption of 87-1 (same as or similar to AFSL) composition limits on various fountain devices, torches, wheels, and chasers  
采用美标对各式花筒，火炬，转轮和地老鼠的药量限制
- Clarifies that firecrackers are subject to 50 mg limit, regardless of “whether intended to produce audible effects  
爆竹必须限制50毫克药量，无论声响
- Revises and expands CPSC “prohibited chemicals” list to specifically limit to no more than 0.25% (to allow for contamination)  
禁用化学物允许0.25%的杂质含量

# Other Provisions of CPSC NPR:

## 其它修例

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

增加六氯代苯（0.01%）和铅（四氧化物和其它化合物不超过0.25%）

- Formally adopts the CPSC side ignition test (similar to APA/AFSL) as a mandatory standard.

正式采用旁燃测试

# Other Provisions of CPSC NPR, cont.

## 其它修例

- Adds to CPSC base dimension requirements by requiring that bases remain attached during handling, storage and operation (similar to APA/AFSL)  
增加底座牢固要求
- Adopts APA/AFSL general prohibition on “burnout” and “blowout” of fireworks  
采用美标“烧筒”和“炸筒”两个违规项
- Adopts APA/AFSL prohibition of projection of “metal, glass or brittle plastic fragments”  
禁止发射金属，玻璃和脆利塑料碎片

# Other Provisions of CPSC NPR, cont.

## 其它修例

- Clarifies that “aerial bombs” are banned (“a tube device that fires an explosive charge into the air without added visual effect”)  
禁止太雷（空中开炸没有任何视觉效果）
- Adopts other APA definitions of: explosive; pyrotechnic composition; firecracker; burnout; blowout; and base.  
采用APA对炸药；火药；爆竹；烧筒；炸筒和底座的定义。

## All Other CPSC Requirements. 其它条例

- Note: 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.

其它条例保持不变，例如：引线时间；火药泄露；斜板测试；高底比例等等。

# Proposed Test for Fine Mesh Metal Powder Using XRF Scanner 提议用XRF扫描测试金属粉末

- Equipment: 仪器名称  
Niton XL3t XRF Analyzer











Thermo SCIENTIFIC MOBILE TEST STAND  
N6001 100g Analyzer



# 133 矿石铜/锌

导航 工具

时间 71.6 sec

Ele 8 +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

# Review of XRF Metal Powder Screening

## 金属探测仪器介绍

Ken He, Lab. Manager, BV

# Request for Comments on CPSC Rulemaking

## 对消委会修例提案的评论

- AFSL encourages all factories and shippers to submit comments to CPSC supporting the proposed regulations.  
美标所鼓励各工厂和发运商提交评论支持消委会的修例提案
- Comments on the NPR are due on July 17, 2017.  
提交日期到2017年7月17日截止。

# IV. Modifications to The Standards

## 标准修改

John Rogers

# Standard for Fuseless Firecrackers

## 无引线爆竹标准

***“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.”***

本标准只适用于被美国交通部核准定级为 UN0337, 1.4S 的烟花产品。

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

单个无引线爆竹内含爆炸药总量不能超过50毫克（0.78格令）。



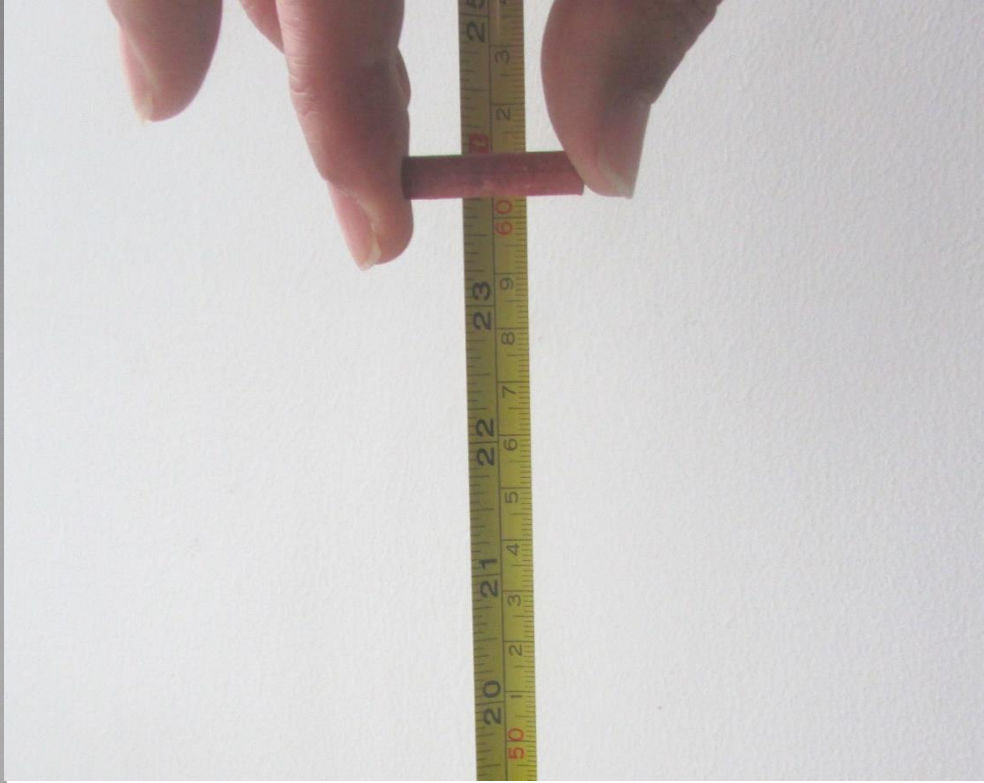


# Standard for Fuseless Firecrackers

## 无引线爆竹标准

*“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*  
单个无引线爆竹从60厘米（2英尺）高度坠落水泥或沥青地面不能引燃。





# Standard for Fuseless Firecrackers

## 无引线爆竹标准

*“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.”*

每个零售包内不能超过20个无引线爆竹，并包有等量或更大量的锯末或类似缓冲物。





FOA  
1705

CAUTION - EXPLOSIVE  
CAREFULLY READ OTHER CAUTIONS ON SIDE PANEL



MADE IN CANADA  
CONTAINS NUTS  
(ALMONDS)

# Standard for Fuseless Firecrackers

## 无引线爆竹标准

*“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.”*

单个零售包装从152厘米（5英尺）高度坠落水泥或沥青地面不能有超过一颗被引燃。





SUPER

# SNAP BANGERS

RED CRACKER STAPS

**CAUTION - EXPLOSIVE**  
CAREFULLY READ OTHER CAUTIONS ON SIDE PANEL



# Standard for Fuseless Firecrackers

## 无引线爆竹标准

***“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.”***

产品设计、包装和装箱要满足,在一个独立的运输包装中,当一个装置引燃时,其它装置不会同时爆炸。

***Effective Date: April 1, 2017.***

**2017年4月1日生效**

# REQUIREMENTS FOR FUSES

## 对引线的要求

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

安全引线：线网包裹的导火线，表面涂有足以抵抗美标旁燃的漆面涂层。

*Effective Date: April 1, 2017.*

2017年4月1日生效







V. Summary of Domestic Audit Program for U.S.  
Importers.  
美国本土调查结果

## Domestic Re-Audits 复查

- Started on March 12, 2015 with follow-up audits of companies that were not fully in compliance during Phase I and II. 81 companies are slated for re-audits.

2015年3月开始，对前期调查发现问题的81家公司进行复查。

## Domestic Re-Audits 复查

- 23 companies have been re-audited. 复查23家公司
  - 8 Companies had corrected all of their previous violations and had no issues. 7家已经改正。
  - 7 Companies had issues with imported fireworks.  
8家还有进口问题产品的情况
  - 6 companies had issues with domestic products only.  
6家只是本土产品的问题
- 2 companies did not respond to re-audit request; one has been suspended and one is pending suspension.  
2家不接受复查的公司，1家已被中止，另一家的中止待定。

## Corrective Actions for US Importers with Continuing Violations. 后续违规公司的整改

➤ The Board approved recommendation for corrective action letters to 12 importers for issues with imported fireworks.

12家进口问题产品的进口商被要求整改。

- Seven have responded to these letters and are taking corrective actions.

7家已经有回应并改正。

- Five have not responded and are subject to suspension.

5家未有回应的将被中止会员资格。

## **VI. Disciplinary Action for Shipper Who Violated Shippers' Agreement.**

### **对违规发运商的处罚**

- **Violation: Shipped Non-AFSL-Certified Products to AFSL member in US.**  
将非美标检验产品发往美国。
- **Board Action: Shipper placed under 12 month Probation Period; Required to have all the shipping records and inventory to be monitored by AFSL.**  
美标所监控其发运记录和仓储，为期12个月。

# Cases Pending against Shippers

## 待处理的违规发运商

- Disciplinary Action Pending Against Nine Additional Shippers for Shipping Non-AFSL-Tested Fireworks to US Importers. Decisions expected in 2 weeks and may include suspensions.

还有九家公司被发现存在非美标产品发运的现象，具体处理有待近期决定。

# Disciplinary Actions for Factories Violating AFSL Program

## 对违规工厂的处罚

- Violations: Demanded that AFSL technicians improperly certify several fireworks lots. 要求不正当的检验结果  
Factory 1 and 2: Detained AFSL technicians; 扣留检验员  
Factory 3: Threatened AFSL supervisors and manager.  
威胁管理人员
- Board actions: All 3 factories suspended from AFSL testing program for a minimum of one year. 中止检验最少一年。

## **VII. Questions and Answers. 问与答**

- Seminar Participants



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**THANK YOU!**

