

# AFSL Consumer Fireworks Seminar

## 美标所消费品烟花研讨会

Yintian Hotel, Liuyang

July 27, 2018



# INTRODUCTION

## 介绍

**JOHN D. ROGERS**

**EXECUTIVE DIRECTOR, AFSL**

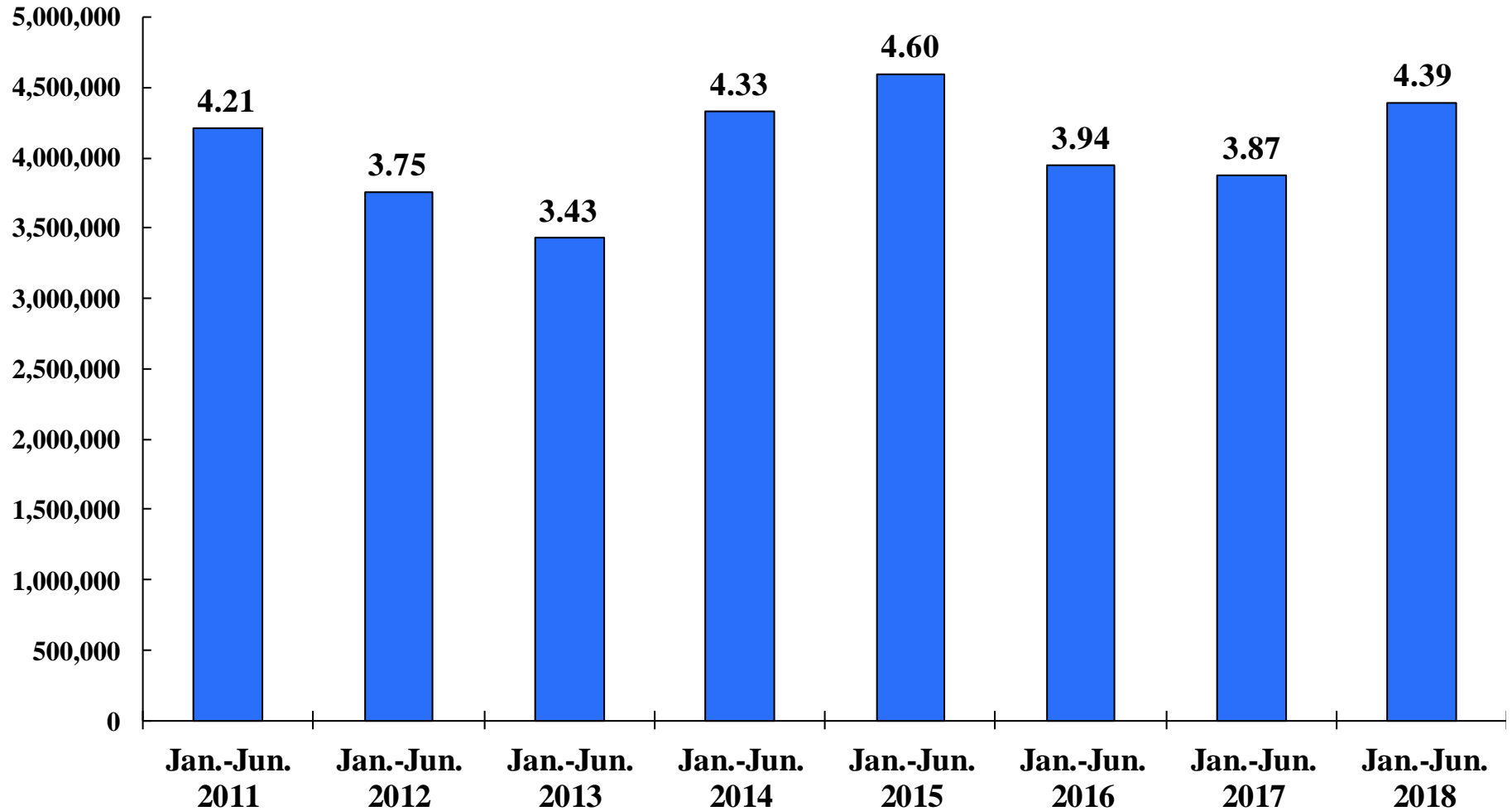
美标所执行董事，罗杰士



**Testing Program - 2018 Results**  
**The First Half**  
**2018上半年测试结果总结**

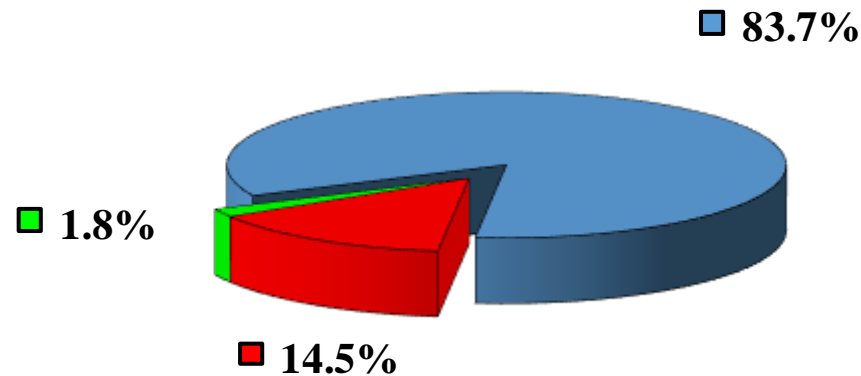
# CASES TESTED BY YEAR 2011-2018

Jan. – Jun. 上半年测试量比较



# REGULAR, ASSORTMENT, AND COMPONENT HALF YEAR 2018 上半年项目构成

■ Regular ■ Assortment ■ Component



**Cases tested for Regular Program: 3.67 million cases.**

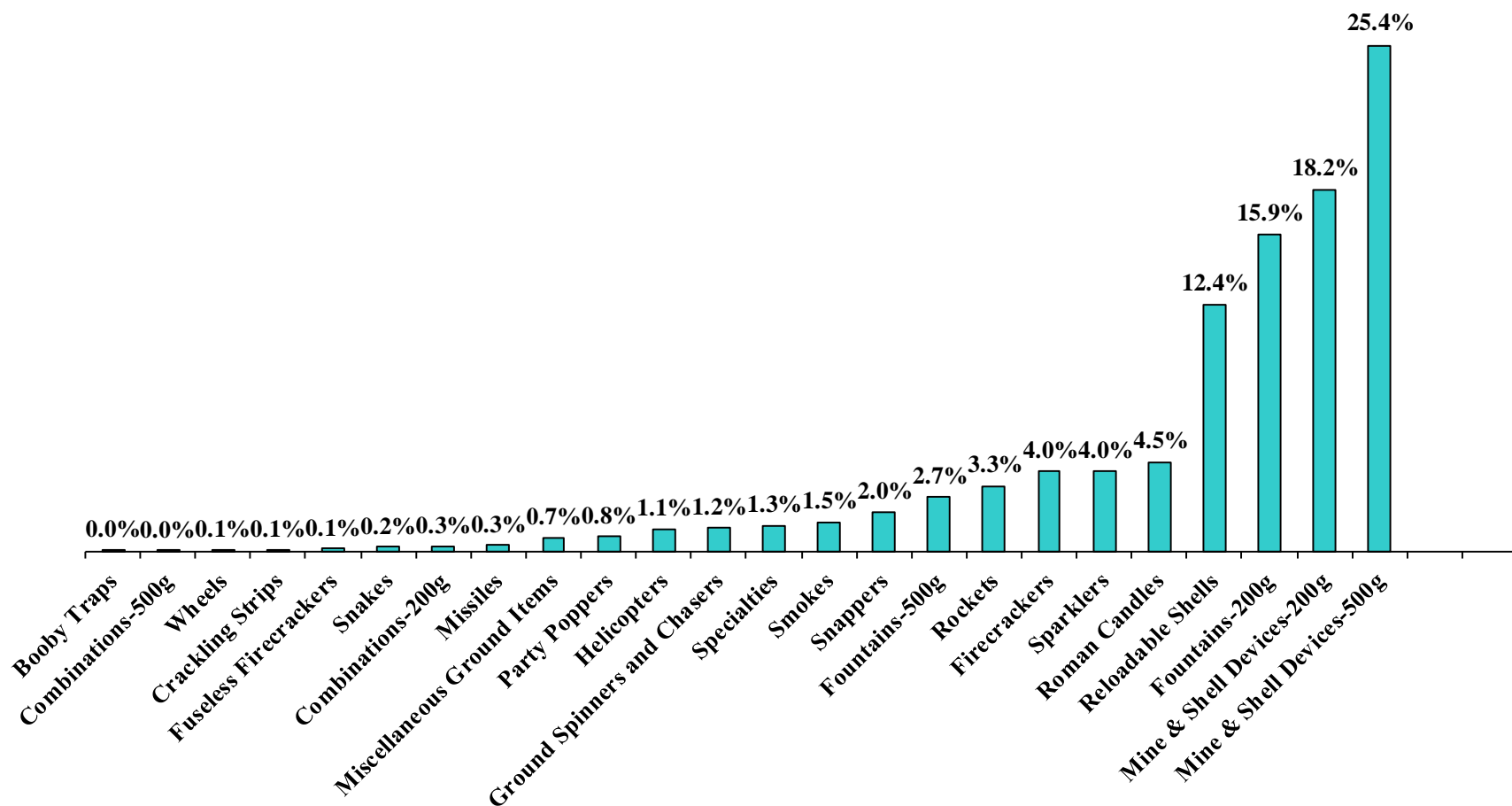
**Cases tested for Assortment Program: 634,179 cases.**

**Cases tested for Component Program: 80,089 cases.**

**Total Cases: 4,386,413**

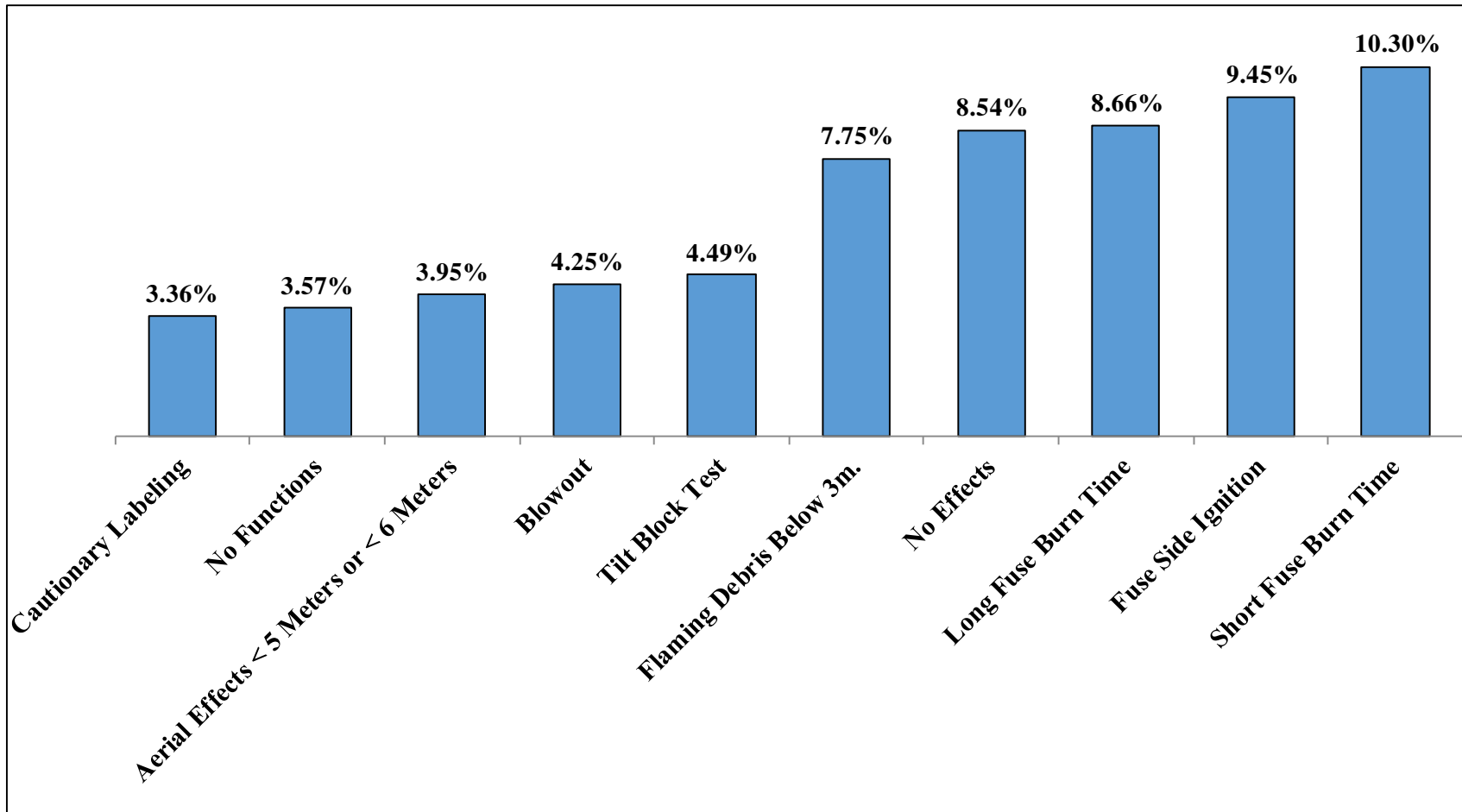
# PERCENTAGE TESTING BY PRODUCT CATEGORY

## HALF YEAR 2018 上半年各类别测试量



# TOP 10 VIOLATIONS HALF YEAR 2018

## Percentage of Total Violations 上半年十大违规项





- **Modifications to AFSL Standards**  
美标标准的修改



# New Category Added

## 新加类别

- MISCELLANEOUS GROUND ITEMS  
to include items such as: Crackling Balls;  
Crackling Tubes; Flashers (Strobes) and  
Sparkler Trees.

其它地面效果品种

包括魔球；响珠筒；闪光和电光花树。

# Standard for Miscellaneous Ground Items 其它地面效果品种的标准

- Limits for Chemical Composition; 药量限制
- Fuse Requirement; 引线规格
- Limits for Performance; 功能限制
- Stability Requirement; 稳定性
- Other common requirements for labelling, packaging, shipping marks etc. 其它通用的规格，诸如标签，包装，箱唛等。

Effective on November 1<sup>st</sup>. 2017 生效期 2017年11月1日

# Pyrotechnic Weight Limits 药量限制

- **Miscellaneous Ground Items 地面效果**

<b>Crackling Balls and Crackling Tubes 魔球和响珠筒</b>	
Per device 单个产品	$\leq 20\text{g}$
Per inner pack 每个内包装	$\leq 75\text{g}$
<b>Flashers(Strobes) 闪光</b>	
Per device 单个产品	$\leq 5\text{g}$
Per inner pack 每个内包装	$\leq 60\text{g}$
<b>Sparkler Trees 电光花树</b>	
Device which contains chlorate 含氯酸盐	$\leq 4\text{g}$ and potassium, sodium or barium chlorate $\leq 15\%$
Device which contains perchlorate 含高氯酸盐	$\leq 5\text{g}$
Device which not contain chlorate or perchlorate 不含氯酸盐和高氯酸盐	$\leq 25\text{g}$

## Fuse Requirement 引线规格

- **All Miscellaneous Ground Items Must Meet 4 to 8 seconds fuse burn time.**  
引线时间都是4到8秒。

## Limit of Performance 功能限制

- **Crackling Balls and Crackling Tubes 魔球和响珠筒**  
2 meter radius. 2米半径范围
- **Flashers (Strobes) 闪光**  
Not applicable 不限
- **Sparkler Trees 电光花树**  
Not applicable 不限

# Standard for Fuseless Firecrackers

## 无引线爆竹的标准

- Amended definition to allow plastic tubes. 修改定义允许塑料筒

***“1-1.1 This Standard applies to the manufacture of a class of Fuseless Firecrackers designed to produce only a single, report at ground level. The unit of sale normally consists of a package containing multiple paper or **plastic tubes**, without external ignition fuses, that are packed in sawdust.”***

1-1.1 本标准适用于此类无引线爆竹，其功能是在地面发生一个炸响。其销售单位通常是包含多个没有外部引线的纸筒产品**或者塑料管筒**，与锯末包装在一起。

# Standard for Reloadable Shells

## 重复装填小炮弹的标准

**Amendment: 修改**

- *“2-1.15 Item subject to this Standard must not bear a name, ~~or~~ bear graphics, **or bear instructions** suggesting a use of the product that is inconsistent with the cautionary labeling instructions.”*

**2-1.15** 符合本标准的装置,其产品名称、产品使用的指示图**或及使用说明**都必须和警句标签的说明文一致。

- **Amendment prevents the advertising on the product of certain safety features such as double lift shells. 修改是为了阻止在产品上宣扬某些安全特性比如两头发射。**

# Standard for Reloadable Shells 重复装填小炮弹的标准

**Amendment: 修改**

***“2-2.3 The launcher tube must be designed and constructed in a manner that will ensure that the shell may be fully inserted into the bottom of the tube without binding.”***

2-2.3 发射筒的设计与构造必须能确保炮弹无阻力完全插入到筒的底部。







# **Update of CPSC Proposed Rulemaking**

## **消委会修订法规提案**

# ACTIONS PROPOSED BY CPSC

## 消委会的具体提案

# 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。

# CPSC Proposed Rulemaking - Timeline

## 消委会修例提案-进程

- NPR published February 2, 2017 二月二日发布
- Initial Comments Due April 18, 2017 四月十八日结束首次意见征集
- NFA requested and received extension for 3 months 要求延迟三个月
- Final Comments Due July 17, 2017 七月十七日结束
- AFSL/APA submitted joint comments July 17, 2017 美标所/美国烟火协会于七月十七日联合提交了意见
- CPSC currently reviewing Comments 消委会正研究各方意见
- Commission expects to make final decision by September 30. 可能在九月底之前做出定夺

# Summary of AFSL Testing

## 美标所测试结果总结

Chuck Rogers 罗杰恰

Americas Director – Supply Chain Solutions and  
Technical Consulting

Bureau Veritas Consumer Product Services



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# AFSL Seminar- BV Part

July 25th 2018

- I. XRF Screening Procedure XRF测试流程**
- II. Video Recording During Fuse Testing 测试记录仪**
- III. Data on Environmental Testing of Fuse 引线模拟环境测试**
- IV. Factory Cooperation During Testing 测试当中工厂的配合**





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# XRF Screening Procedure

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# XRF Scanner



# XRF Scanner



# 2017 Sample XRF Data



MSDV				
	Number of Samples (Al)	% of Samples	Number of Samples (Mg)	% of Samples
% of Metal				
<LOD	227	72.07%	313	99.37%
0 – 1%	64	20.3%	0	0.00%
1.1 – 2.0%	5	1.6%	2	0.63%
> 2.0%	19	6.03%	0	0.00%

# 2017 Sample XRF Data

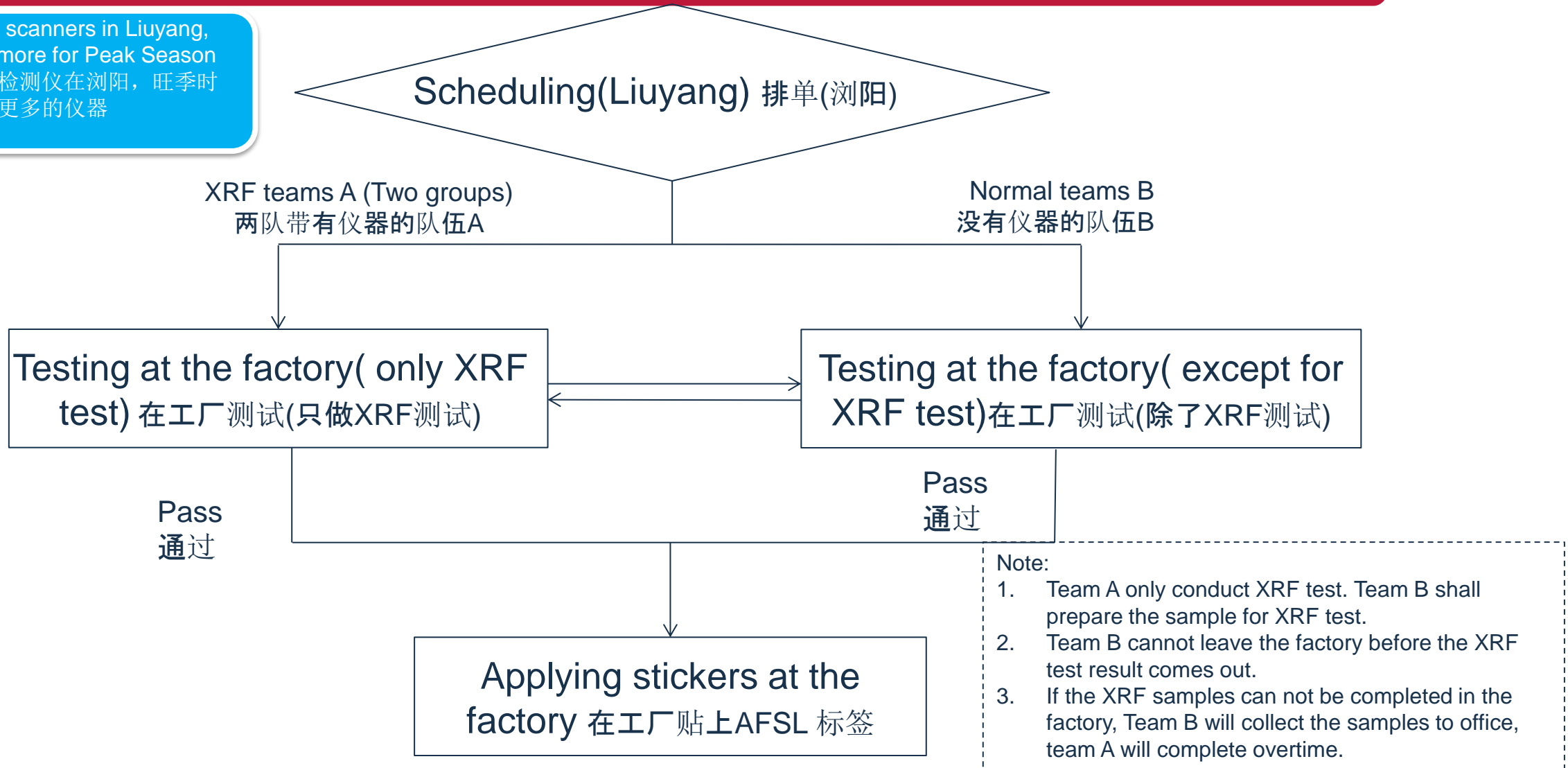


RTAS				
	Number of Samples (Al)	% of Samples	Number of Samples (Mg)	% of Samples
% of Metal				
<LOD	138	46.00%	299	99.34%
0-1.0%	98	32.7%	0	0.00%
1.1 - 2.0%	3	1.0%	0	0.00%
> 2.0%	61	20.3%	1	0.66%



- XRF Screening Teams will be established separately from routine test teams XRF检测的队伍会跟一般测试队伍分开
- Two Scenarios 两种情况
  - XRF Screening team comes to the factory while the regular test team is there; XRF检测的队伍与一般测试队伍同时在工厂的时候;
  - Regular test team sends samples by driver to location where the screening team is working. 一般测试队伍的司机送样品到XRF检测队伍所在地方进行测试;
- Stickers will be applied the same day in most cases; 大部分情况可以当天完成贴AFSL标签
- XRF screening will be conducted within the normal TAT. 在正常周期内完成XRF检测

Two XRF scanners in Liuyang,  
and rent more for Peak Season  
两台XRF检测仪在浏阳，旺季时  
候会租赁更多的仪器





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# Video Recording During Testing

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## ■ Fuse Burn Time



## ■ Fuse Side Ignition



# Pass \ Fail Rate Comparison 通过率对比



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Test data comparison from Mar 20 to May 12

	Data with body camera有摄影记录				Data without body camera没有摄影记录				Total			
	Cases	Lots	Rate by cases	Rate by lots	Cases	Lots	Pass rate by cases	Pass rate by lots	Cases	Lots	Pass rate by cases	Pass rate by lots
<b>CO. 通过</b>	362,034	1,608	90.47%	89.98%	1,749,761	7,712	92.96%	92.56%	2,111,795	9,320	92.52%	92.10%
<b>NC. 失败</b>	38,151	179			132,533	620			170,684	799		
<b>Total 总数</b>	400,185	1,787			1,882,294	8,332			2,282,479	10,119		
<b>AB 空跑</b>	43,343	169	9.77%	8.64%	92,986	393	4.71%	4.50%	136,329	562	5.64%	5.26%
<b>Fuse Burn Time violation 因引线燃烧时间失败</b>	11,205	59	2.80%	3.30%	31,554	185	1.68%	2.22%	42,759	244	1.87%	2.41%
<b>Fuse Side Ignition violation 因引线旁燃失败</b>	6,154	29	1.54%	1.62%	14,342	65	0.76%	0.78%	20,496	94	0.90%	0.93%



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# Data on Environmental Testing of Fuse

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- Four Styles of fuse used 四种引线
- Two ten foot samples of each style 每种引线两根10寸作为测试样品
- One Sample Sealed in Moisture proof bag 一个样品用防水袋单独包裹
- Second sample of each placed in environmental chamber under conditions simulating ocean shipment 另一个样品放置于模拟船运环境的地方

- All samples removed and allowed to come to normal temperature 所有样品取出到正常环境
- Each sample cut into six inch lengths 每个样品剪取6寸长
- Burn time recorded for each six inch length 记录每6寸样品的燃烧时间



Style 样品	Average Unconditioned Burn Rate (sec/ft) 平均燃烧时间(秒/寸)-不在模拟船运环境底下样品	Average Conditioned Burn Rate (sec/ft) 平均燃烧时间(秒/寸)-模拟船运环境底下样品
1	21.54	22.0
2	33.72	27.92
3	26.52	26.36
4	3.78	4.02



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# Factory Cooperation During Testing

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1

**Safe Environment**

安全的环境

4

**Backfilling**

回填

2

**Proper Shooting Site**

合适的燃放场地

5

**Necessary Labor Helper**

必要的人力协助

3

**Proper Stacking**

良好的产品堆叠

6

**Others ( Correct booking information.etc)**

其他(正确的测试申请信息。。。等等)





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***Move Forward with Confidence***



# Q & A

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THANK YOU!

