# NFA CONSUMER AND DISPLAY FIREWORKS SEMINAR

## Branson, MO

## September 4, 2014

# I. Report from the AFSL President

- Mr. Michael Collar, President

# Finances

| | 2011 | 2012 | 2013 |
|---|---|---|---|
| Cases Tested | 7.45 Million | 6.17 Million | 5.92 Million |
| Net Revenue | Net Gain | Net Lost | Net Lost |

Fee Structure

| 1994 | 2003 | 2014 (Jan.-Jul.) | 2014 (Aug.-Dec.) |
|---|---|---|---|
| $0.50 | $0.45 | $0.45 | $0.50 |

- The testing fees AFSL pays the testing lab increased 50% since 1994.
- Since 2005, AFSL established China Operations Office including 2 staff.
- AFSL launched the Domestic Audit Program in 2012.
- AFSL established a Certification Database for U.S. Importers.
- AFSL is developing a new database tracking system in China.

# EFFECTIVE DATE FOR FEE INCREASE

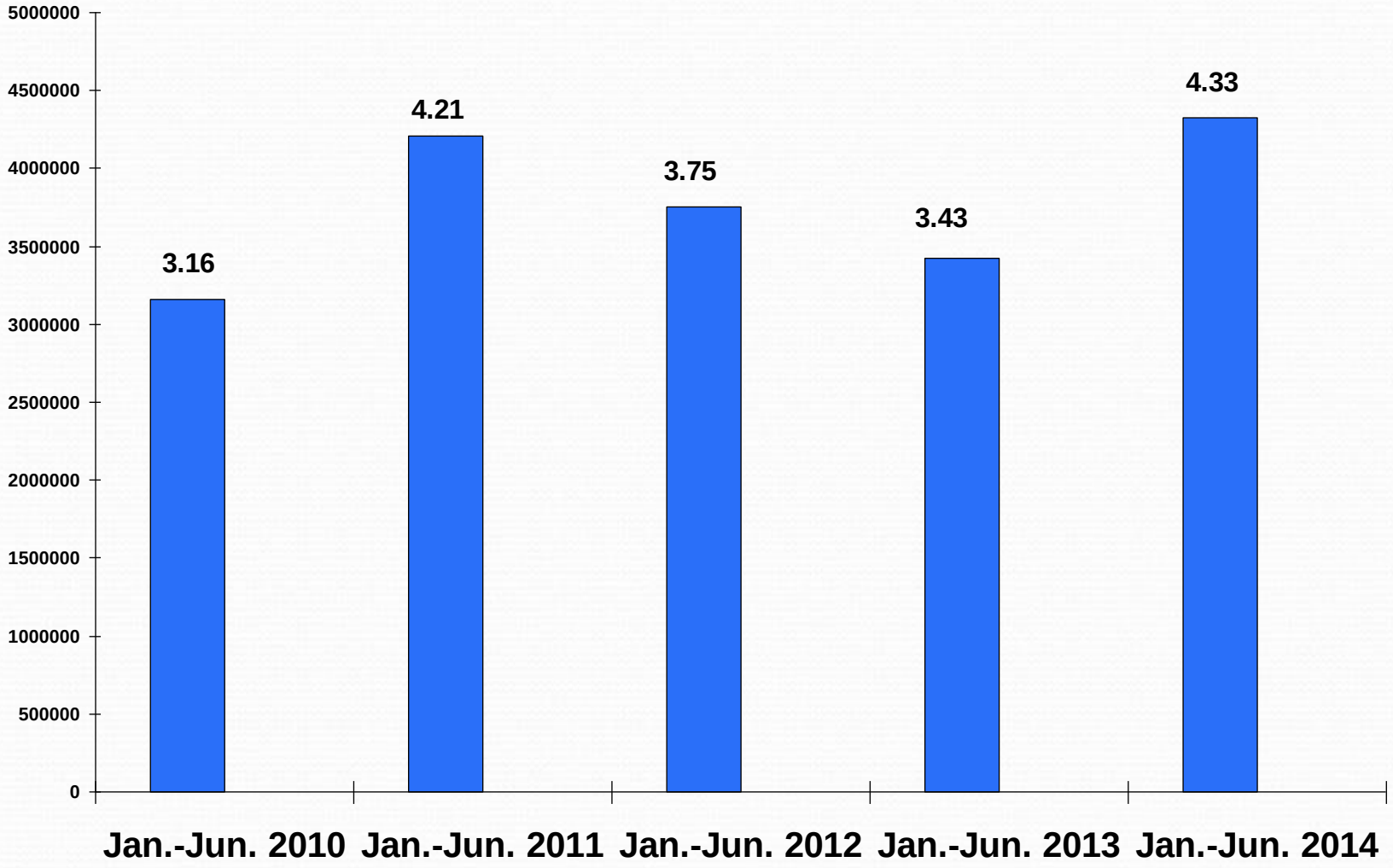
August 1, 2014

# II. Consumer Fireworks Mid-year Program Summary

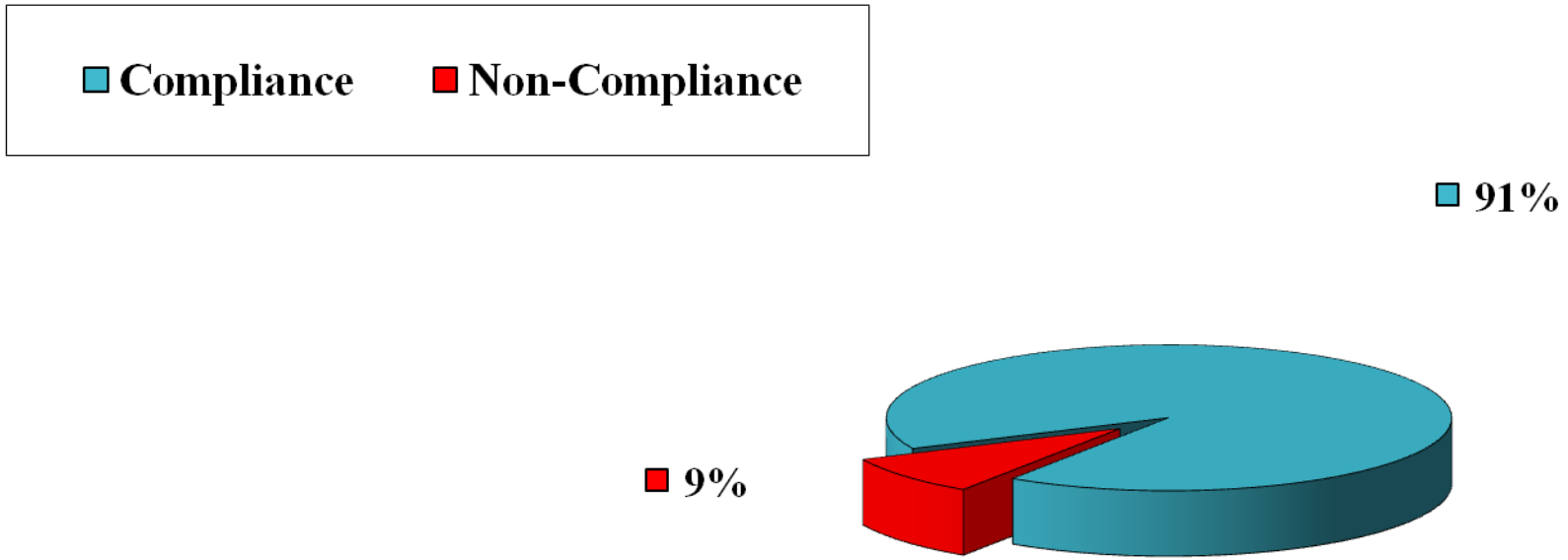
- Mr. John Rogers, Executive Director

# CASES TESTED BY YEAR 2010-2014

## Jan. – Jun.

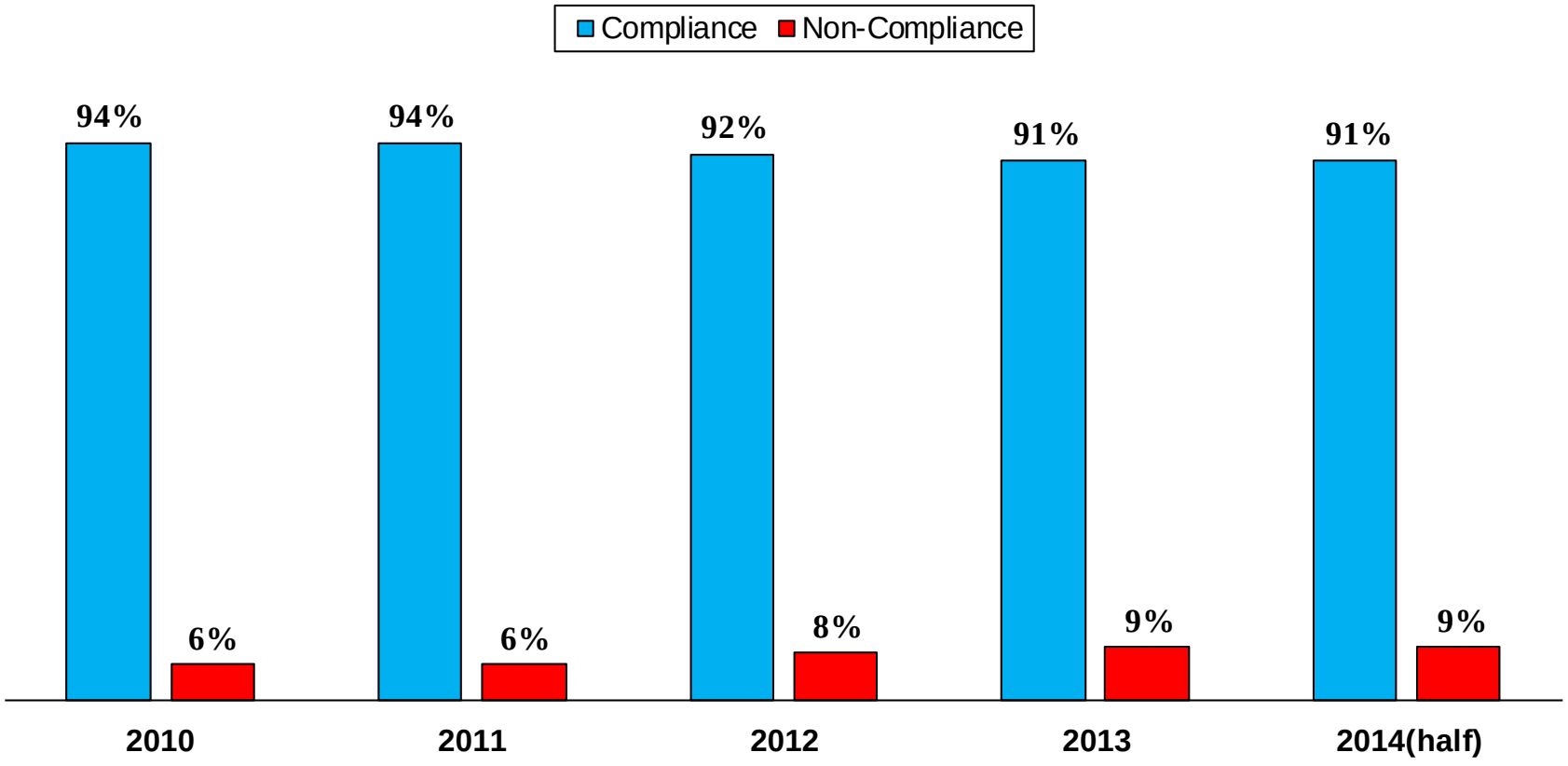


# COMPLIANCE RATE JAN. TO JUN. YEAR 2014
# QUALITY IMPROVEMENT PROGRAM

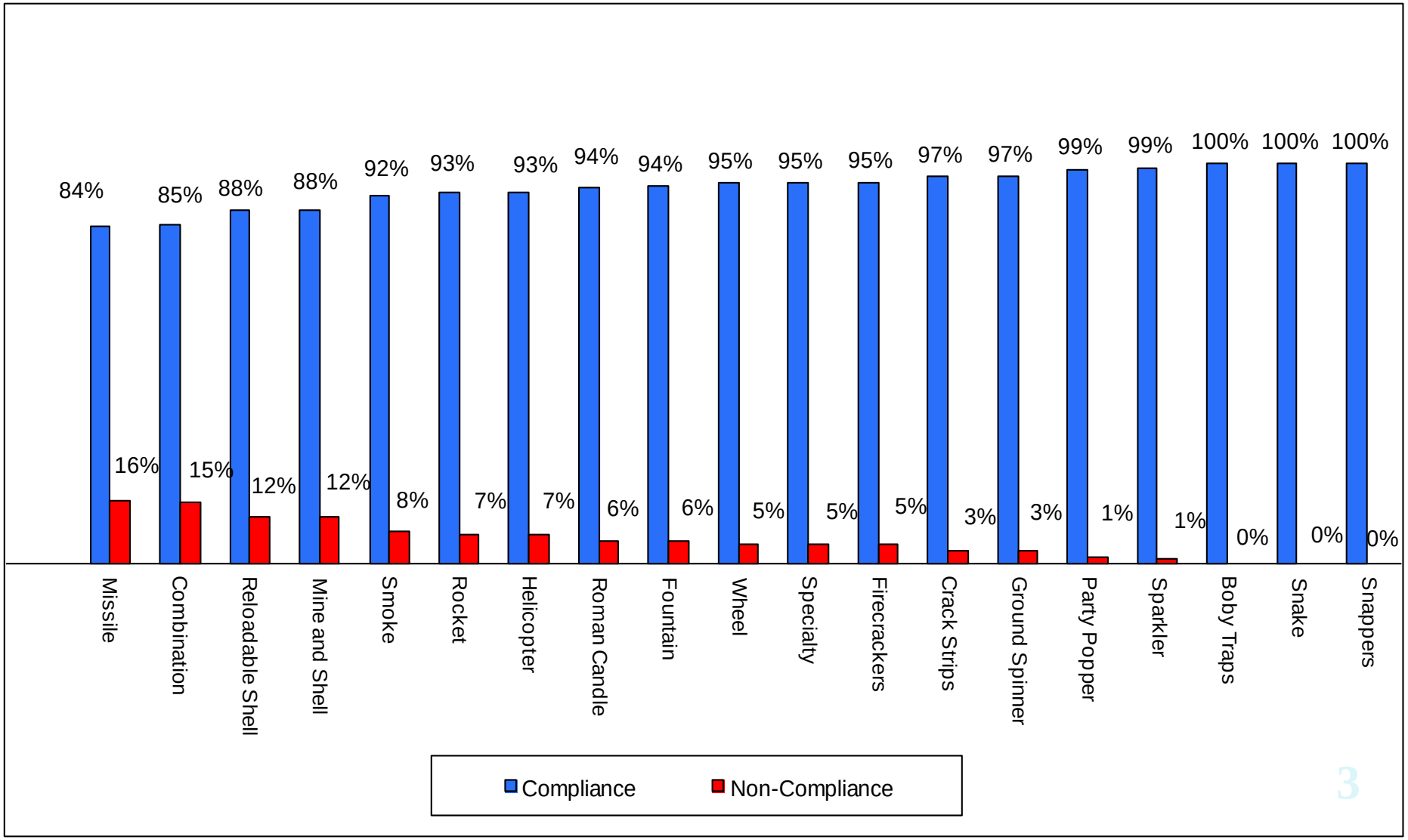



**Complying Cases: 3.95 million cases (include 76,000 component cases and 43,000 regular cases in Thailand)**
**Non-Complying Cases: 378,000 (include 6,200 component cases)**
**Total Cases: 4.33 million (include 82,000 component cases and 43,000 regular cases in Thailand.)**

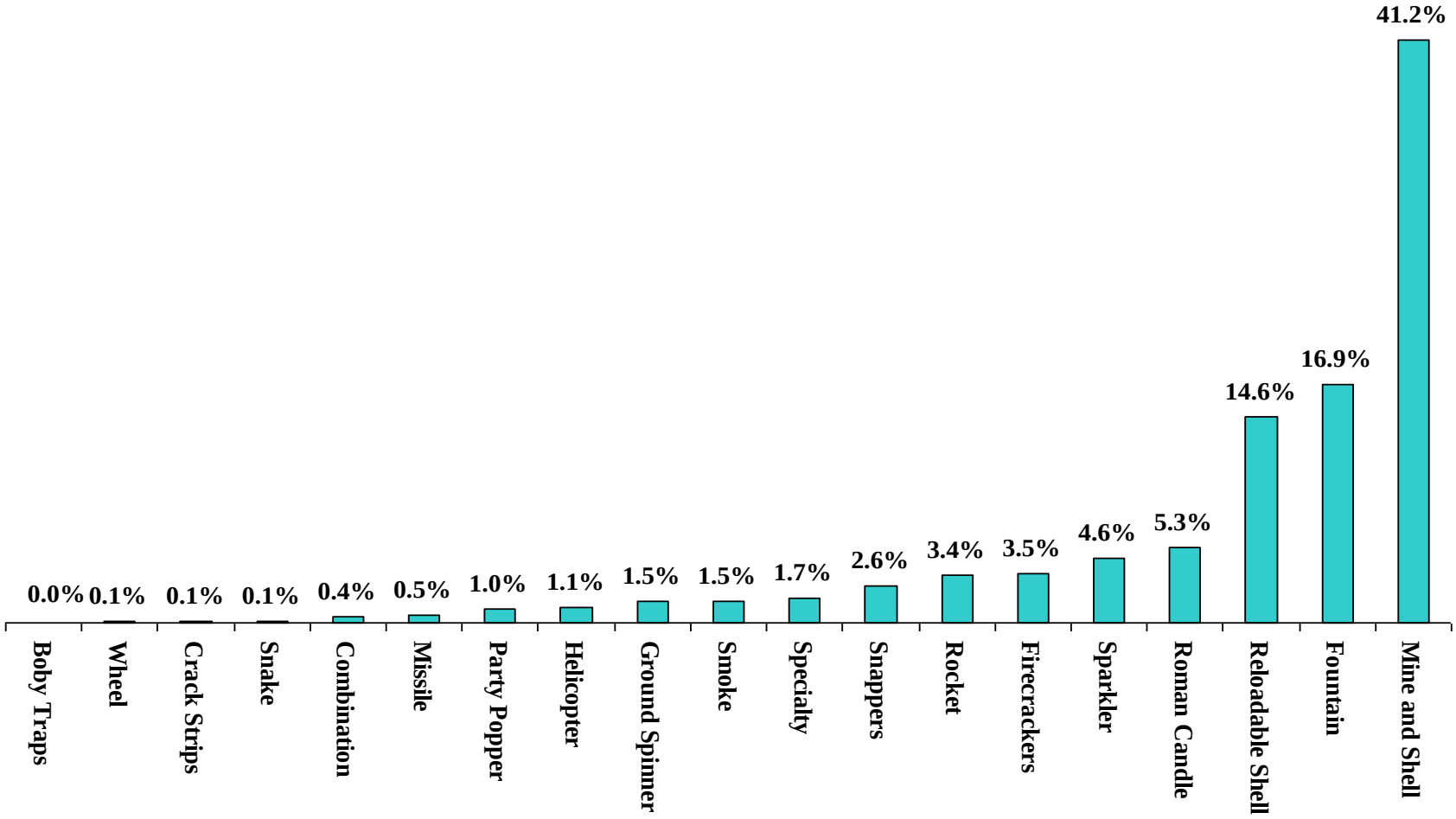
# QIP COMPLIANCE PERCENTAGE BY YEAR



# COMPLIANCE RATE BY CATEGORY
# JAN. TO JUN. 2014

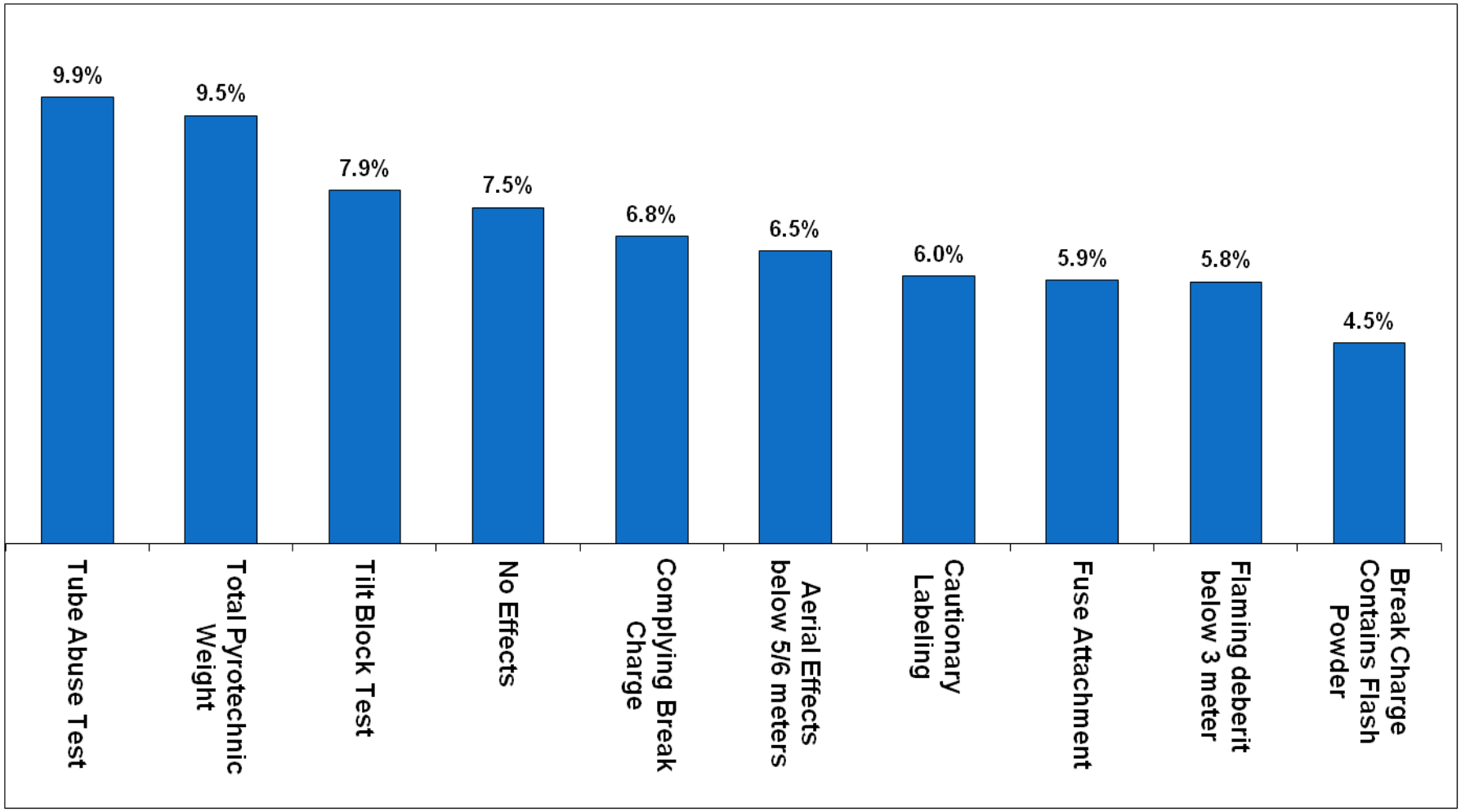


# PERCENTAGE TESTING BY PRODUCT CATEGORY JAN. TO JUN. 2014



# TOP 10 VIOLATIONS JAN. TO JUN. YEAR 2014

## Percentage of Total Violations



# III. Report on CPSC Testing

- Mr. John D. Rogers

# REPORT ON CPSC TESTING

- CPSC Areas of Concern –
  - Overloaded Break Charges
  - Fuse Burn Time Failures
  - Fuse Attachment Failures

# CPSC FINDINGS ON OVERLOADED REPORTS

## RECENT SIGNIFICANT VIOLATIONS 最近重大违规批次

| AFSL Test Lot ID | Product Category | Violation | Average weight of the audible effect composition |
|---|---|---|---|
| **Aerial Devices:** | | | |
| 11014466 | Reloadable Assortment | 16 C.F.R. §1500.17(a)(3) | 11,595.90 mg or 178.95 grains |
| 11X04135 | Reloadable | 16 C.F.R. §1500.17(a)(3) | 11,644.40 mg or 179.70 grains |
| 11014466 | Reloadable Assortment | 16 C.F.R. §1500.17(a)(3) | 11,966.60 mg or 184.67 grains |
| 11014504 | Mine and Shells | 16 C.F.R. §1500.17(a)(3) | 1758.20 mg or 27.13 grains |
| 11013664 | Rocket | 16 C.F.R. §1500.17(a)(3) | 187.50 mg or 2.89 grains |
| 11014927 | Mine and Shells | 16 C.F.R. §1500.17(a)(3) | 2401.60 mg or 37.06 grains |
| 11016458 | Mine and Shells | 16 C.F.R. §1500.17(a)(3) | 2521.30 mg or 38.91 grains |
| 11012024 | Mine and Shells | 16 C.F.R. §1500.17(a)(3) | 2558.40 mg or 39.48 grains |
| 11012025 | Mine and Shells | 16 C.F.R. §1500.17(a)(3) | 2704.30 mg or 41.73 grains |
| 11016754 | Combinations | 16 C.F.R. §1500.17(a)(3) | 2722.30 mg or 42.01 grains |
| 11016093 | Mine and Shells | 16 C.F.R. §1500.17(a)(3) | 2722.30 mg or 42.01 grains |
| 11X03460 | Mine and Shells | 16 C.F.R. §1500.17(a)(3) | 3208.10 mg or 49.51 grains |
| 11017384 | Mine and Shells | 16 C.F.R. §1500.17(a)(3) | 3503.30 mg or 54.06 grains |
| 11015448 | Mine and Shells | 16 C.F.R. §1500.17(a)(3) | 3531.40 mg or 54.50 grains |
| 11013196 | Mine and Shells | 16 C.F.R. §1500.17(a)(3) | 4761.20 mg or 73.48 grains |
| **Firecracker:** | | | |
| 11X04292 | Firecrackers | 16 C.F.R. §1500.17(a)(8) | 490.10 mg or 7.56 grains |

# CPSC FINDINGS ON LONG FUSE BURN TIME

| Lot I.D. | Violations failed by CPSC | CATEGORY | AFSL Test Result |
|---|---|---|---|
| 14X01154 | Long FBT | Mine & Shells | CO |
| 14008784 | Long FBT | Mine & Shells | CO |
| C1400131 | Long FBT | Reloadable Shells | CO |
| 14X00511 | Long FBT | Mine & Shells | CO |
| 14001166 | Long FBT | Mine & Shells | CO |

# CPSC FINDINGS ON SHORT FUSE BURN TIME

| Lot I.D. | Violations failed by CPSC | CATEGORY | AFSL Test Result |
|---|---|---|---|
| 13008547 | Short FBT | Fountains | CO |
| 13011805 | Short FBT | Reloadable Shells | CO |
| 13010902 | Short FBT | Mine & Shells | CO |
| 14003988 | Short FBT | Rocket | CO |
| 14002057 | Short FBT | Reloadable Shells | CO |
| 13L02970 | Short FBT | Smoke | CO |
| 13L02986 | Short FBT | Smoke | CO |

# CPSC FINDINGS ON FUSE ATTACHMENT

| Lot I.D. | Violations failed by CPSC | CATEGORY | AFSL Test Result |
|---|---|---|---|
| 13007643 | Fuse Attachment | Roman Candles | CO |
| 13011217 | Fuse Attachment | Mine & Shells | CO |
| 14X02187 | Fuse Attachment | Mine & Shells | CO |
| 14000665 | Fuse Attachment, Long FBT, Short FBT | Reloadable shells | CO |
| 14000669 | Fuse Attachment, Long FBT, Short FBT | Reloadable shells | CO |
| 13010454 | Fuse Attachment, Long FBT | Roman Candles | CO |
| 13010455 | Fuse Attachment, Long FBT | Roman Candles | CO |
| 13010456 | Fuse Attachment | Roman Candles | CO |
| 14X00916 | Fuse Attachment | Mine & Shells | CO |
| 14003115 | Fuse Attachment | Mine & Shells | CO |

# IV. Metal Powder Used in Break Charges

# AFSL REQUIREMENT ON BREAK CHARGE

1. Break charge must be Black Powder or equivalent.

2. If there is aluminum, magnalium or other metal powder in the break charge, it must meet the 130 mg weight limit.

# Metal Powder Used in Break Charges

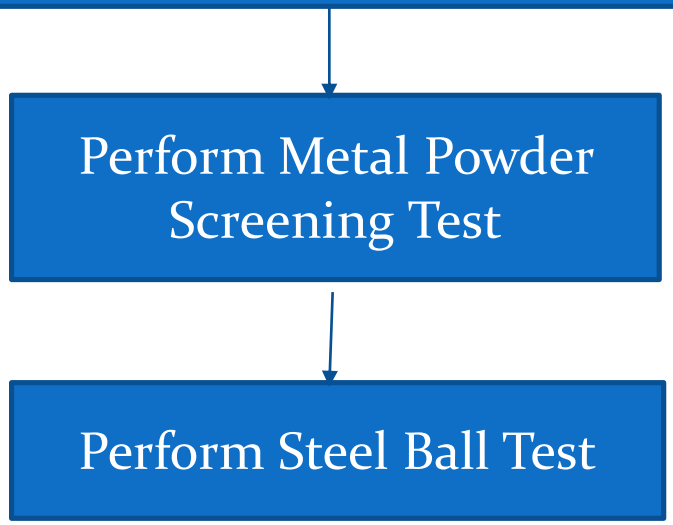
- We determined that many factories are using metal powder in break charges.
- The metal powder was colored black so it was not detected by us for a while.
- With closer screening, we are finding a higher failure rate for this violation since December 2013.

- AFSL failure rate for overloaded aerial reports increased significantly beginning in December 2013.

| Year | Cases | Lots |
|---|---|---|
| 2008 | 303 | 2 |
| 2009 | 1007 | 6 |
| 2010 | 725 | 6 |
| 2011 | 3146 | 24 |
| 2012 | 500 | 2 |
| December 2013 | 15752 | 52 |
| January 2014 | 9960 | 37 |
| Feb. – Jun. 2014 | 18958 | 76 |

# SCREENING TEST PROCEDURE FOR DETECTING METAL IN BREAK CHARGES

We listen to the aerial effect sound level. If it is normal we will pass it. If it is too loud, we will perform additional testing to determine metal powder is present and if the break charge complies with AFSL requirements. At the same time, we watch the burst of the shell in the air. If the break charge contains metal powder it will present a dazzling white flash light in the aerial effects.



# METAL POWDER SCREENING TEST

The break charge composition will be screened through a 100 mesh sieve, then perform the following screening tests:

1. Finger test :

   Rub some break charge powder between the thumb and index finger for 10 seconds. If there is silver color oily coating the finger, there is metal powder present.

# METAL POWDER SCREENING TEST

2. Water test:

Put 1-2 grams of break charge in a cup of water; stir it with a glass or plastic sticker for 1 minute. If there is silver powder floating on top of the water, there is metal powder present. (Note: very fine charcoal powder will float on the water too, but it is dark grey color).

# BREAK CHARGE FAILURES

- If the device produces a very loud break, the sample will be failed for overloaded report if the break charge exceeds 130 mg.
- If metal powder is detected by the metal screening tests, the sample will be failed.
- If the factory objects to the failure in either case, the steel ball test will be conducted to determine the result.

# V. Domestic Audit Program for U.S. Importers

- Mr. Jerry Wingard, Project Manager

# INTERNAL AUDIT PROGRAM

PURPOSE:

A. Monitor Integrity of Certification Process in China.

- Application of AFSL Stickers.
- Authenticity of AFSL Stickers.
- AFSL Lot Identification Stamps.
- Integrity of Shipping Cartons.

B. Assist Importers in Correcting Deficiencies in Program.

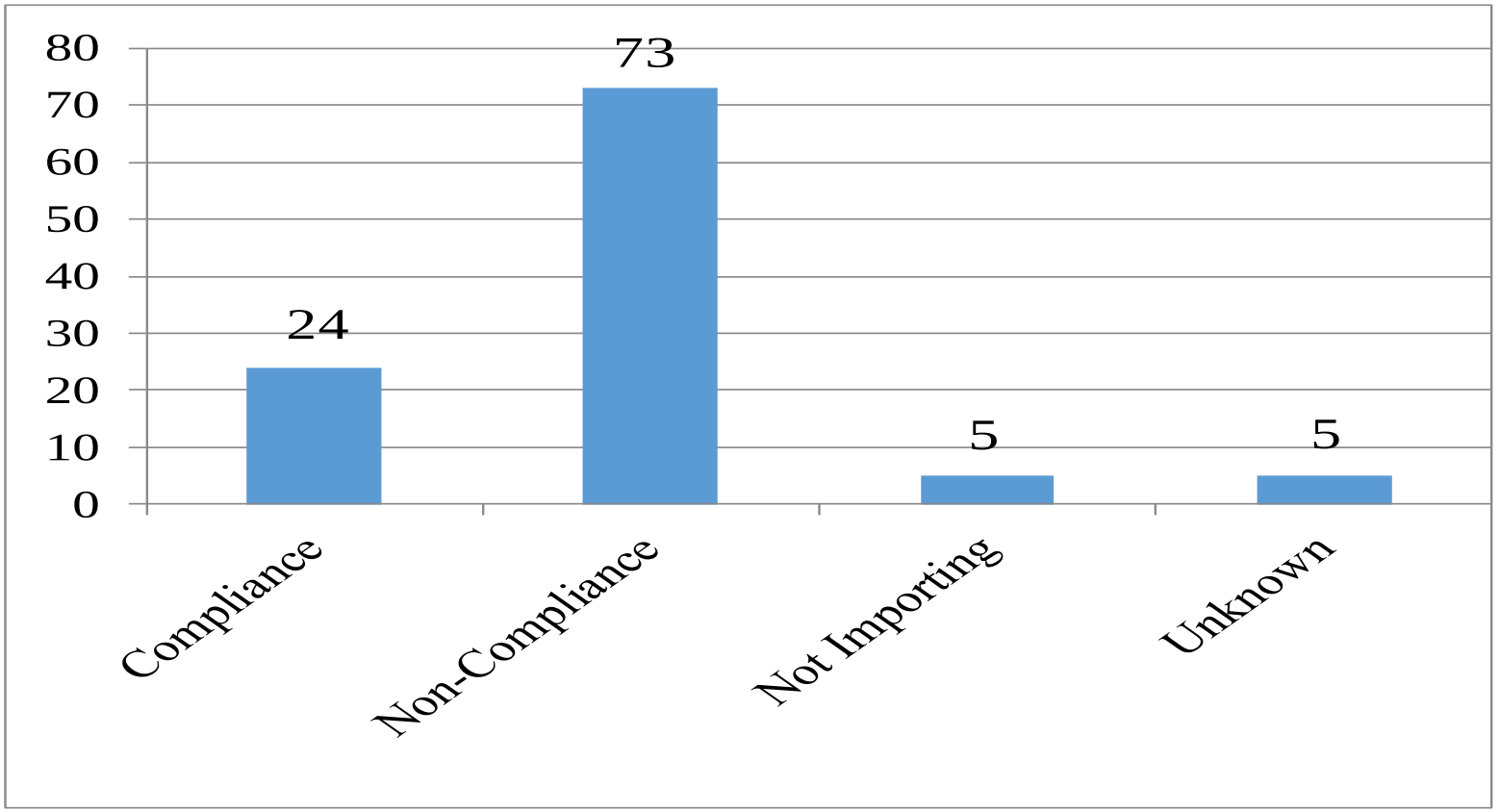
- Familiarity with Requirements of Program.
- How to Address untested Lots.
- Assuring Compliance with CPSC Certification Requirements.

C. Enhance the Integrity of the AFSL Program

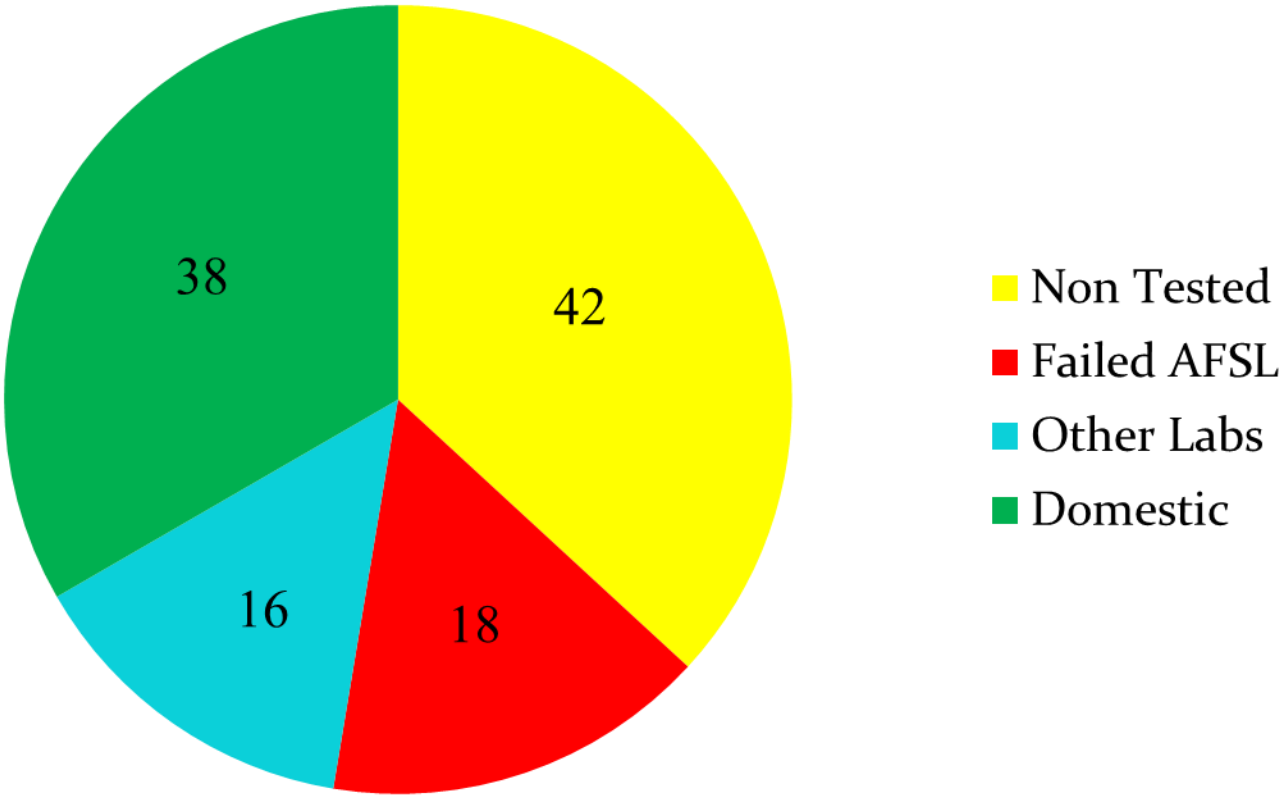
- Validate Certification Process in China.
- Demonstrate that Program is Adequately Monitored.
- Improve the Credibility of the Program for Regulatory Authorities (DOT and CPSC).

# SUMMARY OF AUDITS

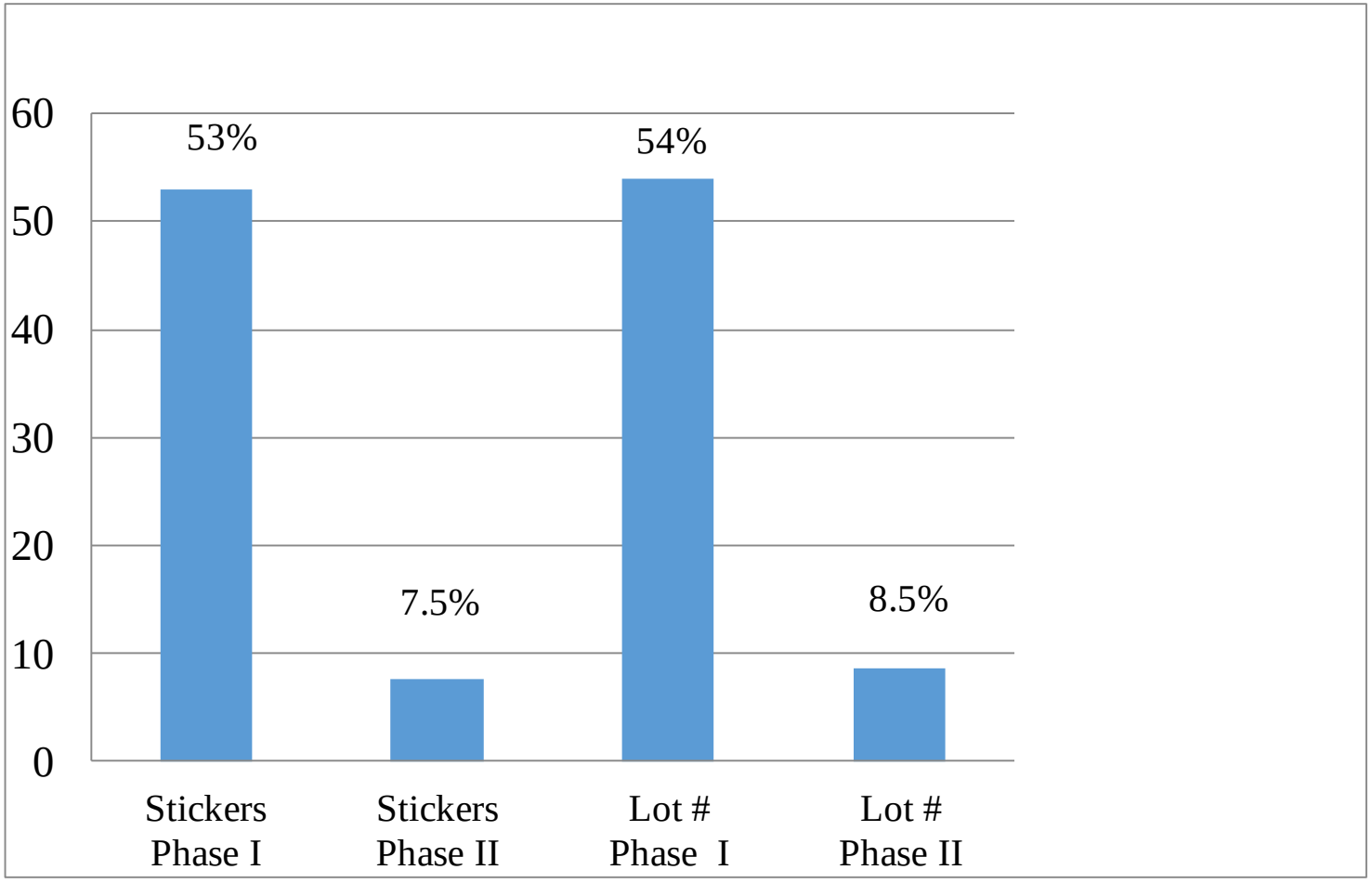
- 107 companies have been audited. The chart below shows the results:



# VIOLATION TYPES



# AFSL CERTIFICATION PROCESS FINDINGS – PHASE I AND II



# VI. Changes to AFSL Standards

- Mr. John D. Rogers

# TUBE ABUSE TEST FOR RELOADABLE TUBE AERIAL SHELL DEVICES

The Standards Committee considered whether the Tube Abuse Test for low – energy Reloadable Tube Aerial Shell Devices could be modified or eliminated without compromising the safety of the devices.

# RESULTS OF TESTING

- Tube Abuse Test.mpg

**Decision: The tube abuse provision in section 2-1.5.6 of the Reloadable Shell Standards was NOT amended and remains in effect for all categories of reloadable tube aerial shell devices, including lower- energy shells.**

# GRENADE SHAPED FIRECRACKERS

# MODIFICATIONS TO FIRECRACKER STANDARD

**Decision: Amend Section 2-1.12 as follows: "Items subject to this standard must not bear a name, bear graphics *or be of a product design or physical form that suggests* a use of the product that is inconsistent with the caution labeling instructions".**

Effective Date: February 17, 2014

# RESIDUAL BURN REQUIREMENT FOR MULTIPLE TUBE FOUNTAINS

- The standard for Fountains was amended to include the following requirement for Multiple tube fountains:

-- ***"The finished item, including tubes and internal construction material, must not continue to burn or re-ignite after functioning."***

# TEST PROCEDURE FOR RESIDUAL BURN (MULTIPLE TUBE FOUNTAINS)

**Test Procedure:**

- Following functioning of the devices in the performance test, allow the items to sit for 1 hour.

- If ignition of the tubes or other internal components occurs during the one-hour observation period, record that device as a Failure.

# TEST PROCEDURE FOR RESIDUAL BURN (MULTIPLE TUBE FOUNTAINS)

**Test Procedure (continued):**

- After the one-hour period, use the Thermal Detector (positioned 11 inches from the top of the device), scan the entire inside area of the device, and record the maximum internal temperature detected in each of the devices.

- If the maximum internal temperature remains above 250° F (121° C), record that device as a Failure.


micro temp
MT PRO
LASER

# ADDITIONAL WARNING LABEL FOR MULTIPLE TUBE FOUNTAINS TO ADDRESS RESIDUAL BURN

4-2.13 Multiple-tube Fountains subject to this Standard must bear a warning label which reads: "May re-ignite. Soak with water after use."

**CAUTION**
**MAY RE-IGNITE. SOAK WITH WATER AFTER USE.**

# ADDITIONAL WARNING LABEL FOR MULTIPLE TUBE FOUNTAINS TO ADDRESS RESIDUAL BURN

NOTE: The label must be placed on the top surface of the device next to the fuse, where feasible. If not feasible, the label must be placed on the flat surface closest to the fuse. The label must be consistent with AFSL labeling and type-size requirements in Appendix B of the AFSL Standards.

Effective Date: July 1, 2014

# PROCEDURES FOR PREVIOUSLY FAILED LOTS

- If a previously assigned lot I.D. number is found on a shipment lot that is assigned for testing, the technician should not test the lot, and the lot should be classified as “CA.” The previously assigned Lot ID number on the cartons will be recorded in the “Remarks” section of the “CA” test report.

# EXCEPTION

- If there is clear evidence to demonstrate that the entire shipping Lot was reworked or replaced. Such evidence includes but not limited to:

- All the cartons were opened and resealed;

- All the wrapping labels of the products were removed and re-wrapped;

- All the previously tested products were removed and replaced, and the failed products are separated from the shipment, etc.

# PROCEDURES FOR PREVIOUSLY FAILED LOTS

- Prior to testing the re-worked Lot, the technician must obtain permission from the Operations Office to conduct the test, and confirm the previous violation which was found in the Lot. The previous Lot I.D. number should be recorded in the "Remarks" section of the test report, as follows: "***a previous lot I.D. xxxxxxxxx was found on all shipping cartons.***"

# OTHER ACTIVITIES:

AFSL has submitted an application to PHMSA to become an FCA. A decision from PHMSA is still pending.

# VII. Display Fireworks Testing Program Overview

- Mr. John D. Rogers

# DISPLAY FIREWORKS PROGRAM REVIEW

**Three components :**

- Annual factory audits
- On-site product evaluations
- Container loading supervision

# PARTICIPATING 1.3G IMPORTERS

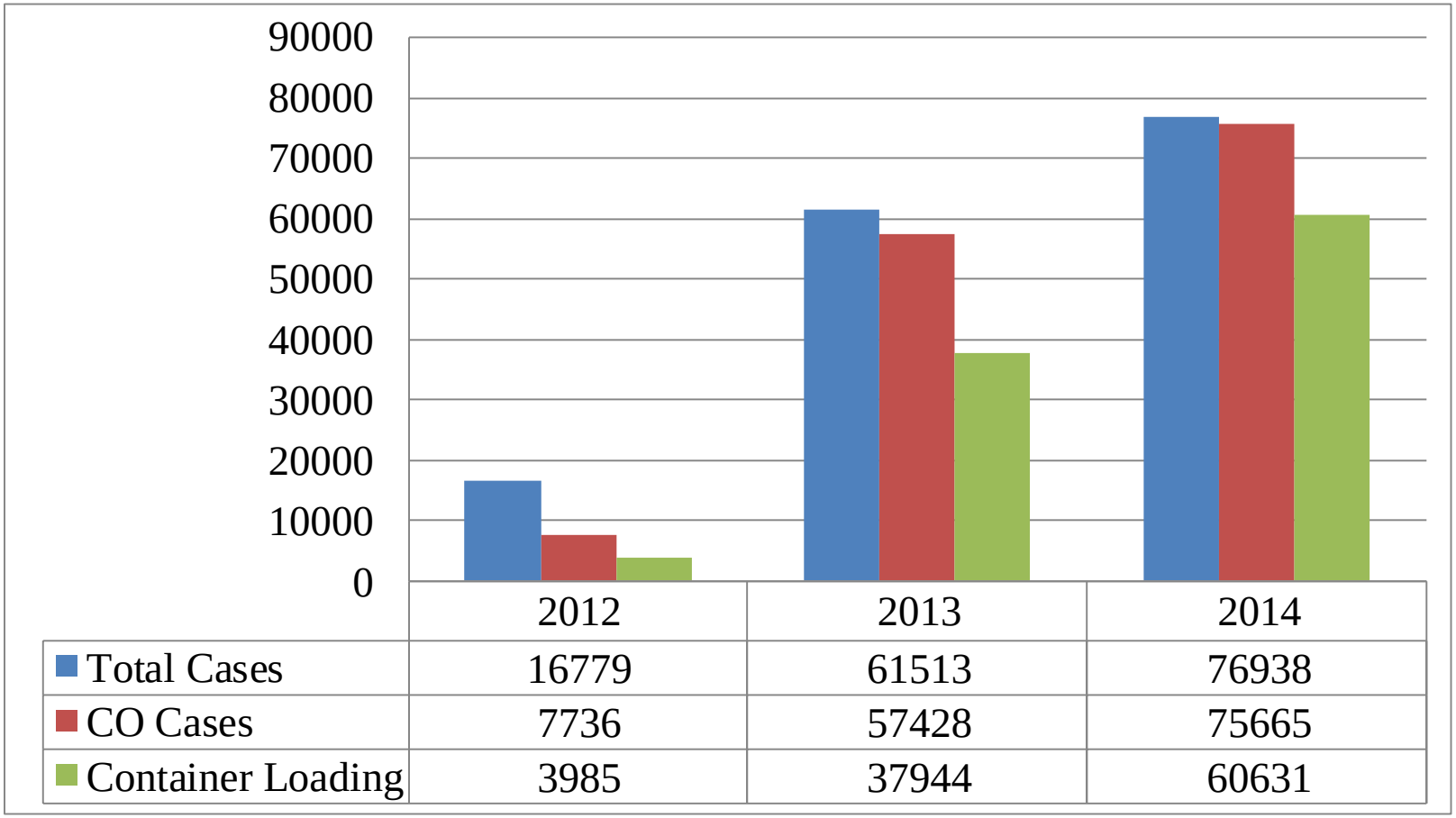
## More than 50% of U.S. Market

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

# PARTICIPATING SHIPPERS

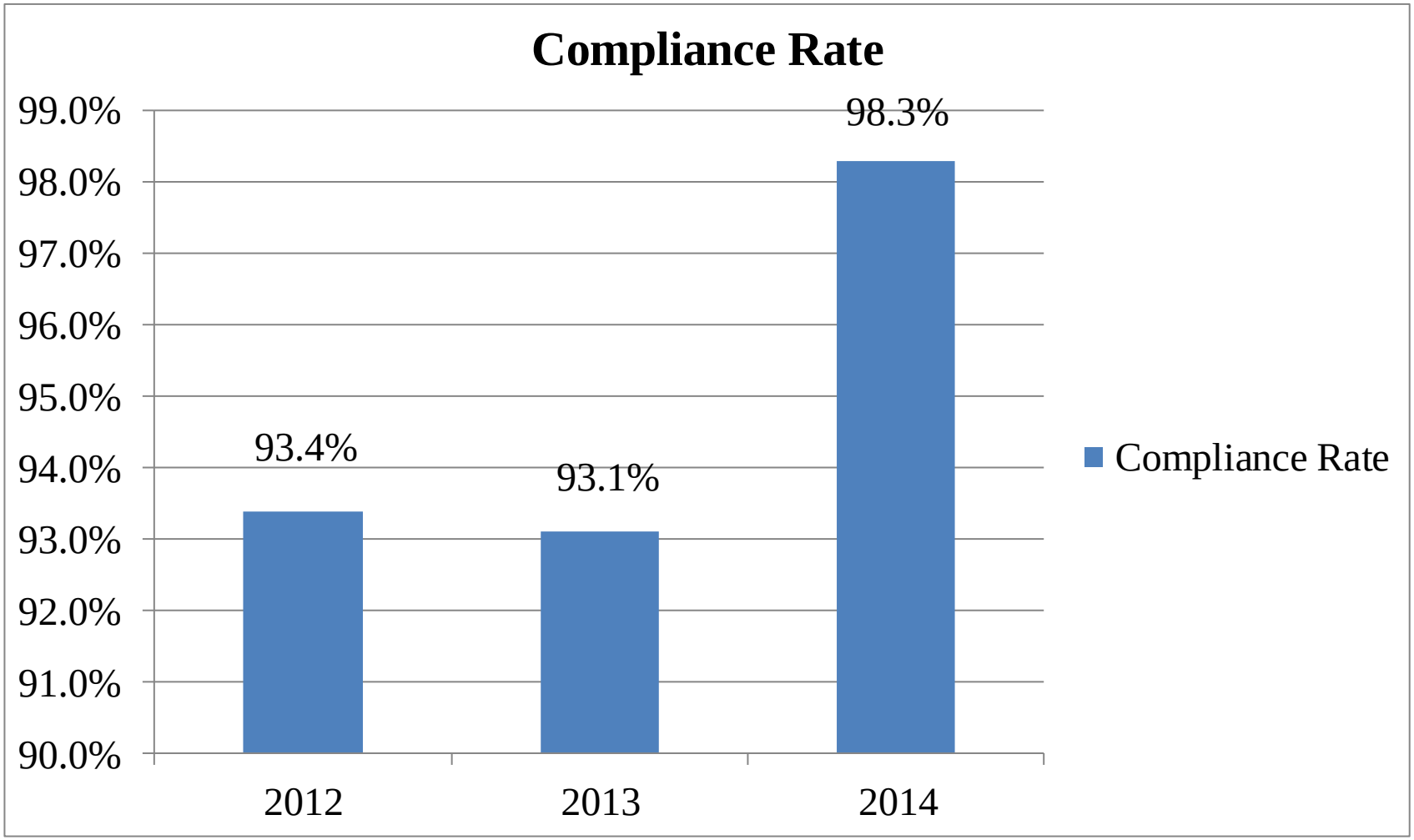
| | | |
|---|---|---|
| | 1 | An Ping County Fireworks General Factory |
| | 2 | Babytiger Fireworks Import & Export Ltd., Co. |
| | 3 | Cenxi Wahyee Advanced Fireworks Factory |
| | 4 | Dancing Fireworks Group |
| | 5 | Far East San Luen Fat Trading Company |
| | 6 | Glorious Professional Products Trading Limited |
| | 7 | Hua Hui Fireworks Manufacturing Co., Ltd. |
| | 8 | Hunan Cereals, Oils and Foodstuffs Import & Export Group Co., Ltd. |
| | 9 | ICON Pyrotechnics International Co., Ltd. |
| | 10 | Inter-Oriental Fireworks (HK) Ltd. |
| | 11 | Jiangxi Changshan Exporting Fireworks Manufacture Co., Ltd. |
| | 12 | Jiangxi Panda Fireworks Co., Ltd. |
| | 13 | Jiangxi Province Lidu Fireworks Corporation Ltd. |
| | 14 | Jiangxi Province Light Industrial Products I/E Co., Ltd. |
| | 15 | Jiangxi Wanzai Golden Peak Fireworks Corp. |
| * | 16 | **Liuyang Goldenkey Trade Co., Ltd.** |
| | 17 | Liuyang Jingli Fireworks Trade Co., Ltd. |
| | 18 | Liuyang Jinsheng Fireworks Co., Ltd. |
| | 19 | Liuyang Leping Import & Export Co., Ltd. |
| | 20 | Liuyang Qingtai Export Trade Co., Ltd. |
| | 21 | Liuyang Sunny Fireworks Trade Co., Ltd. |
| | 22 | Liuyang Xiangguang Fireworks Trading Co., Ltd. |
| | 23 | NanChang Xiangtian Imp. & Exp. Co., Ltd. |
| | 24 | United Pyrotechnics (USA) Inc. |
| | 25 | Yung-Feng Firecrackers & Fireworks Co., Ltd. |

# DISPLAY FIREWORKS TEST SUMMARY JANUARY – JULY 2012, 2013 AND 2014




| | 2012 | 2013 | 2014 |
|---|---|---|---|
| Total Cases | 16779 | 61513 | 76938 |
| CO Cases | 7736 | 57428 | 75665 |
| Container Loading | 3985 | 37944 | 60631 |

# DISPLAY FIREWORKS COMPLIANCE RATE BY YEAR



# QUESTION & ANSWER PERIOD

# WWW. AFSL.ORG

THANK YOU!