

Modifications to AFSL Testing Procedures

Modifications to AFSL Testing Procedures - 1

Fuse Burn Time for Firecracker Rolls

- Applies to firecracker strings containing more than 1000 firecrackers per roll.
- Lead fuse must meet 3 - 9 second fuse burn time.
- Will test by cutting 20-25cm of the starting section.
- Effective date: **August 1, 2010.**

Modifications to AFSL Testing Procedures – 2

Removal of Tolerances for Firecrackers.

- ▶ Firecrackers presently are subject to a 20% tolerance for pyrotechnic weight. Weights not exceeding 59.9 milligrams are certified by AFSL.
- ▶ This tolerance will no longer be permitted.
- ▶ All firecrackers must strictly meet the 50 milligram limit.
 - ▶ **Effective Date: September 1, 2010**

Modifications to AFSL Testing Procedures - 3

Removal of Tolerances for Aerial Reports

- Aerial Reports presently are subject to a 10% tolerance for pyrotechnic weight. Weights not exceeding 143.0 milligrams are certified by AFSL.
- This tolerance will no longer be permitted.
- All aerial reports must strictly meet the 130 milligram limit.

• Effective Date: September 1, 2010

Modifications to AFSL Testing Procedures -4

Testing of Assortments

- ▶ Assortments containing aerial shell devices with any tube larger than 1 inch i.d. will be tested under the Regular Program.
- ▶ All the other items within the Assortment may be tested either under the Regular Program or the Assortment Program. The Shipper must make the choice.
- ▶ **Effective date: September 1, 2010**

NEW SAMPLE SIZE FOR FUSE ATTACHMENT AND SIDE IGNITION TEST

- Current sampling plan and AQL.:

S-1; 2.5

Sample size: 5

- New sampling plan and AQL.:

S-3; 2.5

New sample size:

5; 20;32;50

NEW SAMPLE SIZE FOR REPORTS AND FIRECRACKERS POWDER WEIGHT TESTS

- Current sampling plan and AQL.:
- S-1; 2.5
- Sample size: 5

- **New sampling plan and AQL.:**
- **S-3; 2.5**
- **New sample size:**
- **5;20; 32; 50**

SAMPLE SIZE FOR PERFORMANCE TEST ON 500G MINE AND SHELL DEVICES

- Current sampling plan and AQL.:
- S-1; 2.5
- Sample size: 5

- **New sampling plan and AQL.:**
- **S-2; 1.5**
- **New sample size: 8**

Effective Date for New Sample

Sizes:

November 15, 2011

GIRANDOLAS

- Construction Requirements
 - A launch rod is required for Girandolas.
(the current standard does not include this requirement)
 - The Launch Rod must be straight and rigid and securely attached to the base to prevent it from being damaged or detached during transportation, handling and normal operation.

GIRANDOLAS

PERFORMANCE

-- For items with multiple effects, the timing between effects must not exceed 10 seconds.

(the current standard does not include this requirement.)

Effective date: May 1, 2011

REQUIREMENT FOR BOOBY TRAPS

-- Booby traps must be packaged in a package meeting all requirements for retail sale that contains not more than 12 units.

(the current standard does not include this requirement)

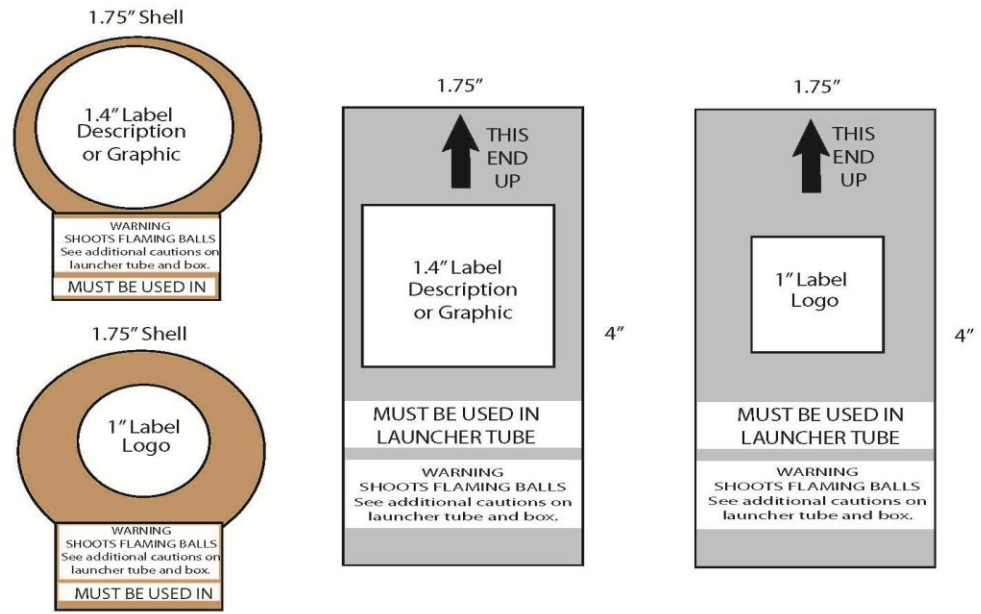
-- Effective date: September 1, 2011

RELOADABLE TUBE AERIAL SHELL DEVICES

- The current standard prohibits artwork or graphics or designs and shapes that would cause the device to look like a finished fireworks device.

New Requirements:

- The shell may bear a name, description or depiction of the effects produced, provided it does not exceed 1.4 linear inches in any direction.
- The shell may bear the name or logo of the manufacturer or distributor, or the brand name of the item, provided the name, logo or brand name does not exceed one linear inch in any direction.



Effective date: May 1, 2011

DOMESTIC TESTING PROGRAM

- AFSL/SGS to test fireworks manufactured or assembled in the U.S.
- Purpose: To permit importers to certify products to comply with CPSC certification requirements.

PRODUCTS MANUFACTURED FROM COMPONENTS OR FULLY MANUFACTURED IN US.

- Additional Testing is required.
- Samples will be collected by SGS from the Manufacturer's warehouse.
- Samples will be tested by SGS at Tulsa, OK lab.
- Manufacturer's controller will assign and monitor the application of AFSL Stickers to the finished lot.

DOMESTIC PROGRAM COSTS

- Certification of assortments – US\$0.07 per case.
- Testing of finished items assembled from certified components – US\$0.42 per case.
- Testing of fully manufactured domestic products – US\$0.75 per case.
- Sample collection fee - US\$150 per man-day.

DOMESTIC PROGRAM IMPLEMENTATION DATE

Implementation Date: February 24, 2011

Program Description Available
from AFSL Website:

www.afsl.org

STANDARD FOR CRACKLING STRIPS

- Modification: 60 grams composition limit per device. Changed from 200 grams.
- Implementation Date: November 1, 2011
- Composition limit per retail pack is 200 grams.

REQUIREMENTS FOR DRAGON TAILS



- Classify as a Specialty Item.
- Subject to Fuse Burn Time and Fuse Side Ignition Requirements.
- Subject to all other requirements for Specialty Items, including 20 gram limit.

BAN ON HEXACHLOROBENZENE

- Implement a screen test.
- Effective date: November 1, 2011

SHIPPING MARK FOR NOVELTIES

- Language in current standards states “CA 0006014”.
- Appendix C of AFSL Standards modified to read “**APA Standard 87-1**” instead of CA 0006014”, to be consistent with DOT requirements.

ABORTIVE INSPECTIONS PROGRAM

- Purpose: To improve process efficiency, manpower planning, and maximize field service coverage for actual inspections which are ready to be executed.
- Goal: Reduce the abortive inspection ratio from 6.9% to 3% by the close of 2011; to 1% by the close of 2012; and maintain a 0.5% target thereafter.

ABORTIVE INSPECTIONS PROGRAM

- Once an SGS Field Service Staff member is dispatched to a factory, the following two circumstances will define an abortive inspection:
 - All lots or partial lots are not ready for inspection.
 - Corrective action has not been demonstrated by the factory prior to a re-inspection request.

ABORTIVE INSPECTION FEES

- If either circumstance occurs, SGS will charge 500 RMB for partial cancelations and 1000 RMB for total cancelations.
- The Factory is responsible to fund this fee.

ABORTIVE INSPECTION CANCELLATION

- 2 grace cancellations will be honored per month per factory.
- AFSL will not impose the fee for any bookings that are cancelled within 1 working day of the field service inspector's dispatch.

ABORTIVE INSPECTIONS PROGRAM

- Failure of a Factory to pay an outstanding abortive fee will result in suspension of service to the designated factory by AFSL.

REQUIREMENTS FOR MULTI-TUBE FOUNTAINS – RESIDUAL BURNING.

- ▶ New Requirement: The finished item, including tubes and internal construction material, must not continue to burn or re-ignite after functioning.
- ▶ Test Procedure – To Be Developed.
- ▶ Effective date: October 1, 2011
- ▶ Implementation Delayed Pending Development of Test Procedure.

REQUIREMENTS FOR NITROCELLULOSE FOUNTAINS (FOUNTAIN CANDLES OR ICE FOUNTAINS)

- Fit into the category of Fountains or Specialty item depending on the total pyrotechnic weight.
 - 5 grams or less – Specialty;
 - More than 5 grams -- Fountains
- May use a point of ignition instead of a fuse.
- Not subject to fuse burn time, fuse side ignition, or fuse attachment.

REQUIREMENTS FOR NITROCELLULOSE FOUNTAINS (FOUNTAIN CANDLES OR ICE FOUNTAINS)

- Visual effects must not extend beyond 1 meter in length and must not produce a continuous flame longer than 150 mm (6 inches).
- Cautionary label: “Light Tip and Get Away” (Instead of “Light fuse and get away). “For Outdoor Use Only” is mandatory.

NITROCELLULOSE FOUNTAINS (FOUNTAIN CANDLES OR ICE FOUNTAINS)

- Pyrotechnic Composition Limit: 15 grams.
- Items containing more than 5 grams must meet the 2 inch spike length and 4 inch void space requirements for Fountains .
- Reminder: Device must have a valid EX# to be accepted for testing.
- Effective date: March 1, 2012

DEVICES THAT RESEMBLE CANDY OR FOOD

- ▶ Old Requirement: The finished item must not be designed or packaged in such a manner that it could be confused with candy or other food.
- ▶ New Requirement: The finished item must not be designed or packaged in such a manner that it could be confused with candy or other foods if it is of a size or configuration that could be ingested.
- ▶ Effective Date: September 1, 2012

REQUIREMENTS FOR SNAPPERS

- New definition: A paper or plastic wrapped device containing not more than 1.0 mg of silver fulminate coated on small bits of sand or gravel. When dropped the device explodes, producing a small report.
- Note: Snappers wrapped in other than paper wrapping or devices containing chemical compositions other than silver fulminate require an EX approval under 49CFR 173.56B.

Effective date: January 1, 2012.

SAMPLE SIZE FOR TOTAL PYROTECHNIC COMPOSITION WEIGHT

- Current sampling plan and AQL.:

Old sample size: 1 to 2 units
only

- New sampling plan and AQL.:

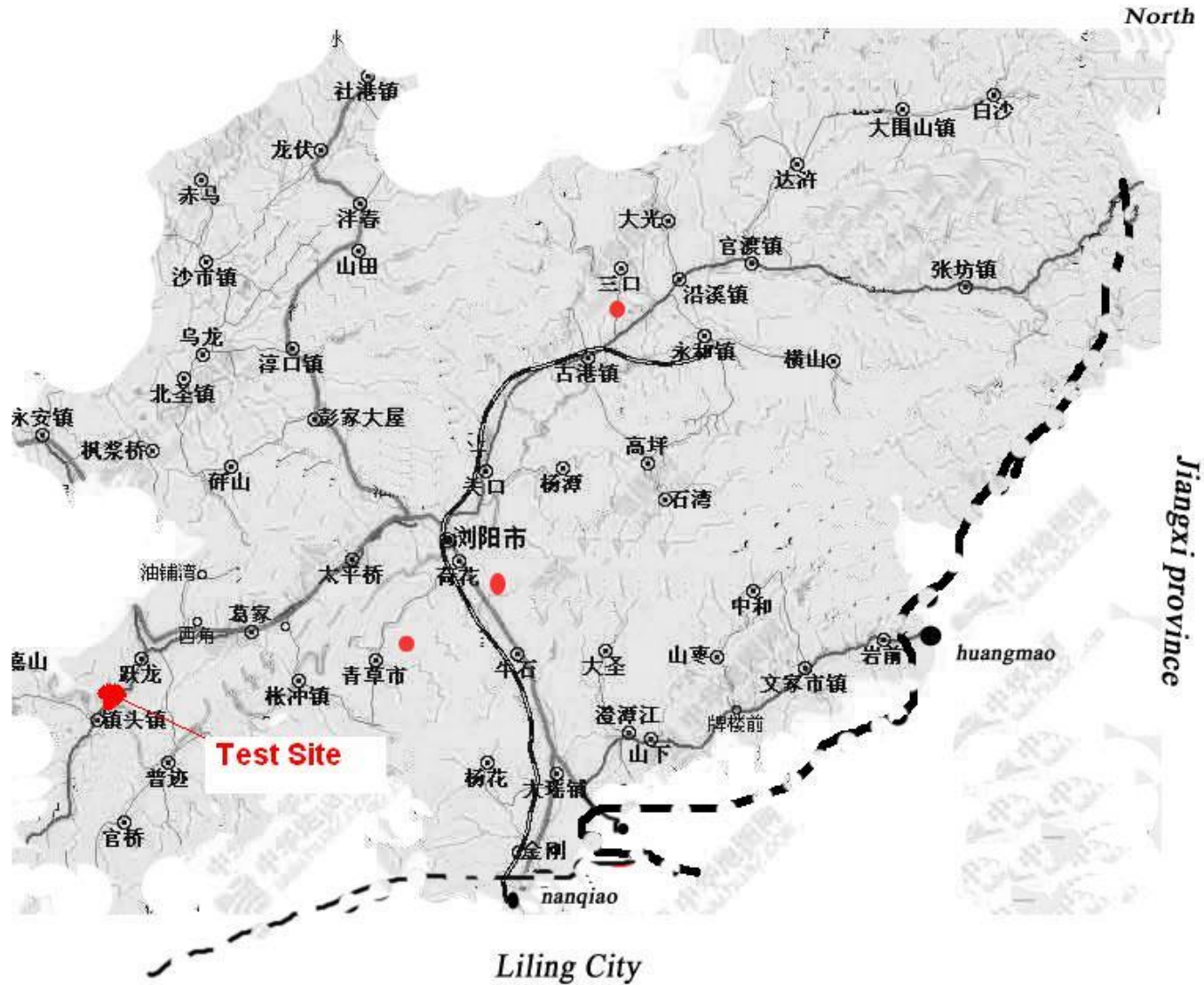
S-1; 2.5

New sample size: 5 or 8
units depending on lot
size

Effective Date: May 31,
2012

CENTRALIZATION TESTING PROGRAM BRIEFING

TESTING SITE



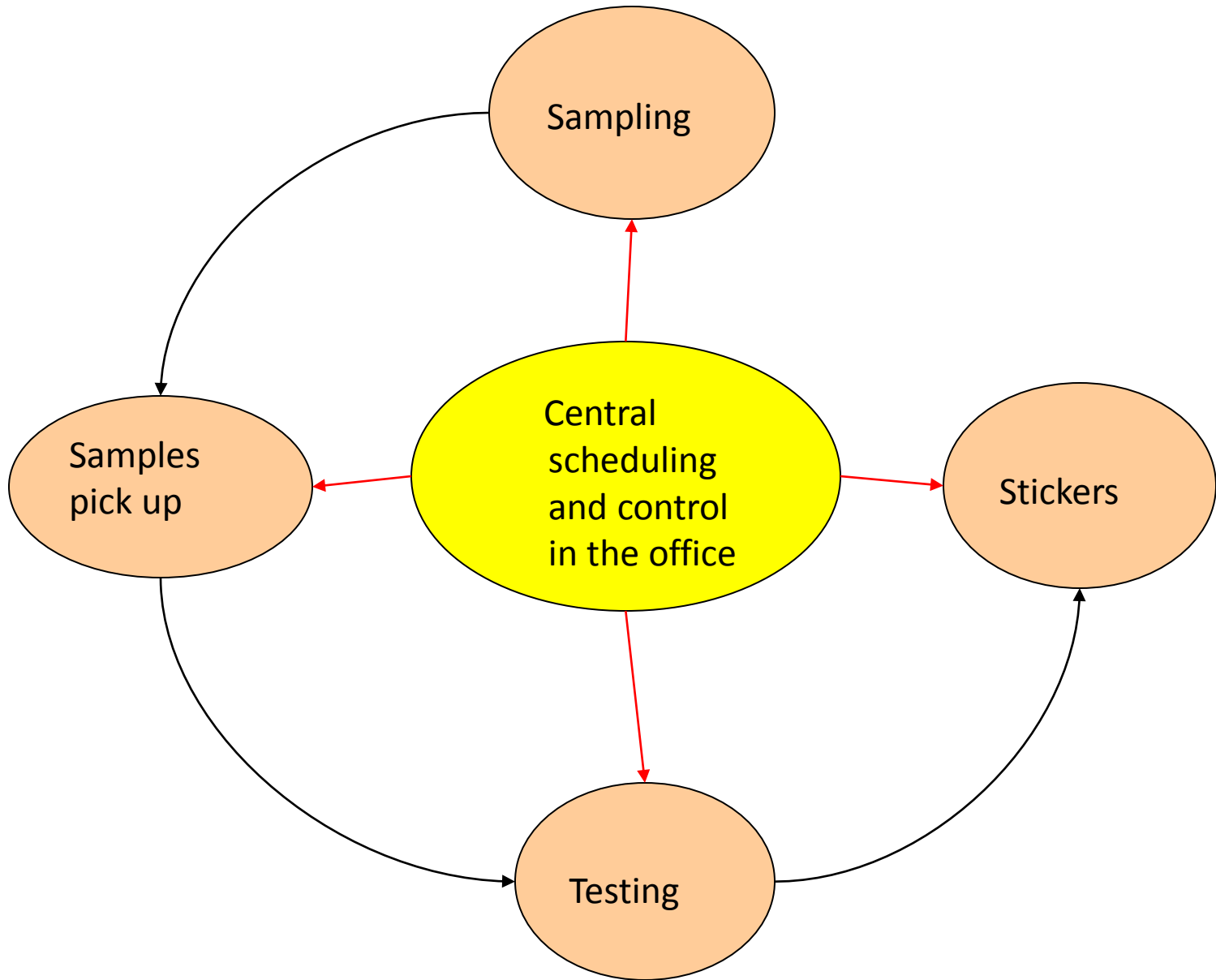
TESTING SITE



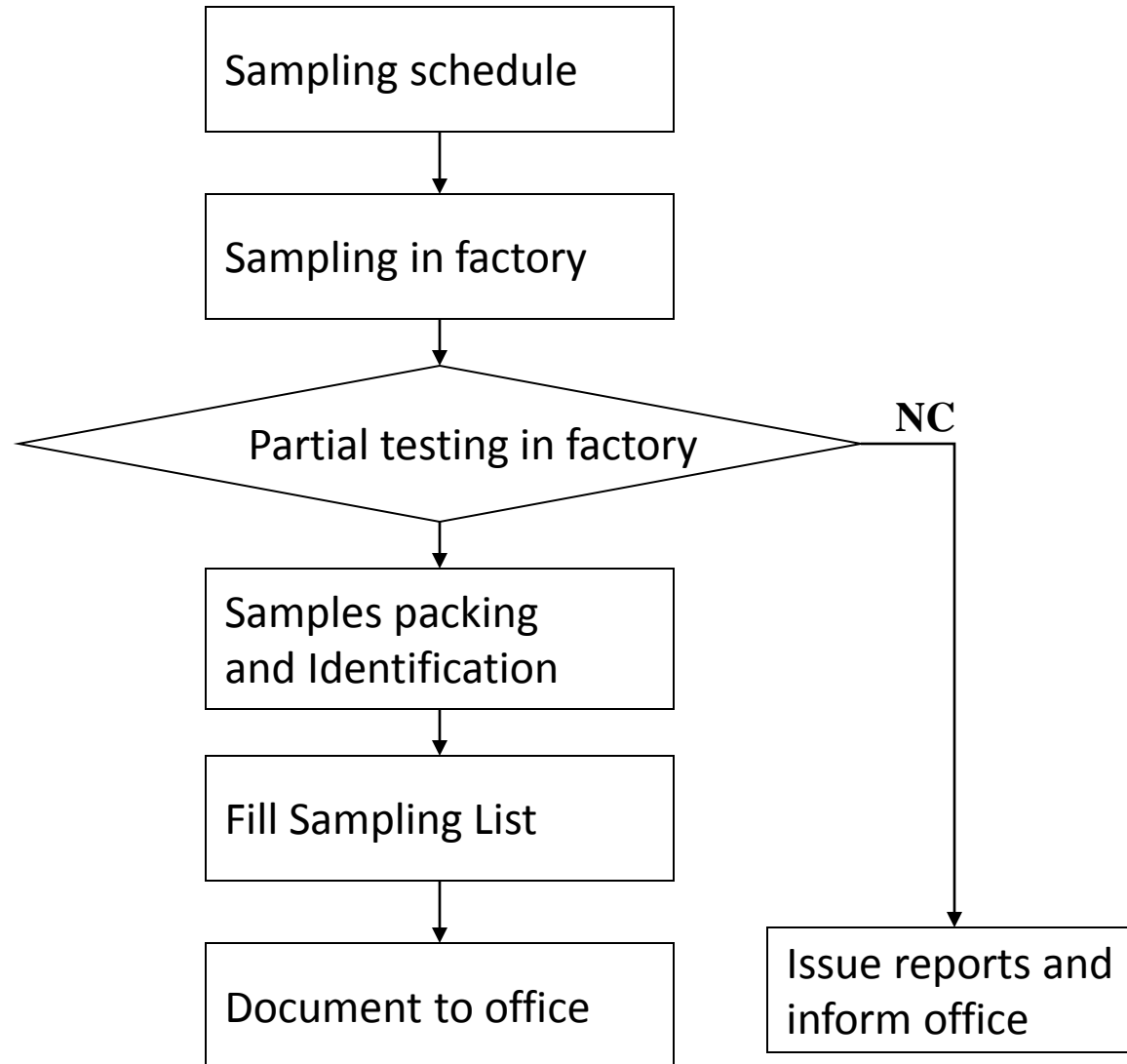
FOUR PARTS

- Sampling
- Samples pick up
- Centralized Testing
- Sticker Application

FLOW CHART



SAMPLING FLOW CHART



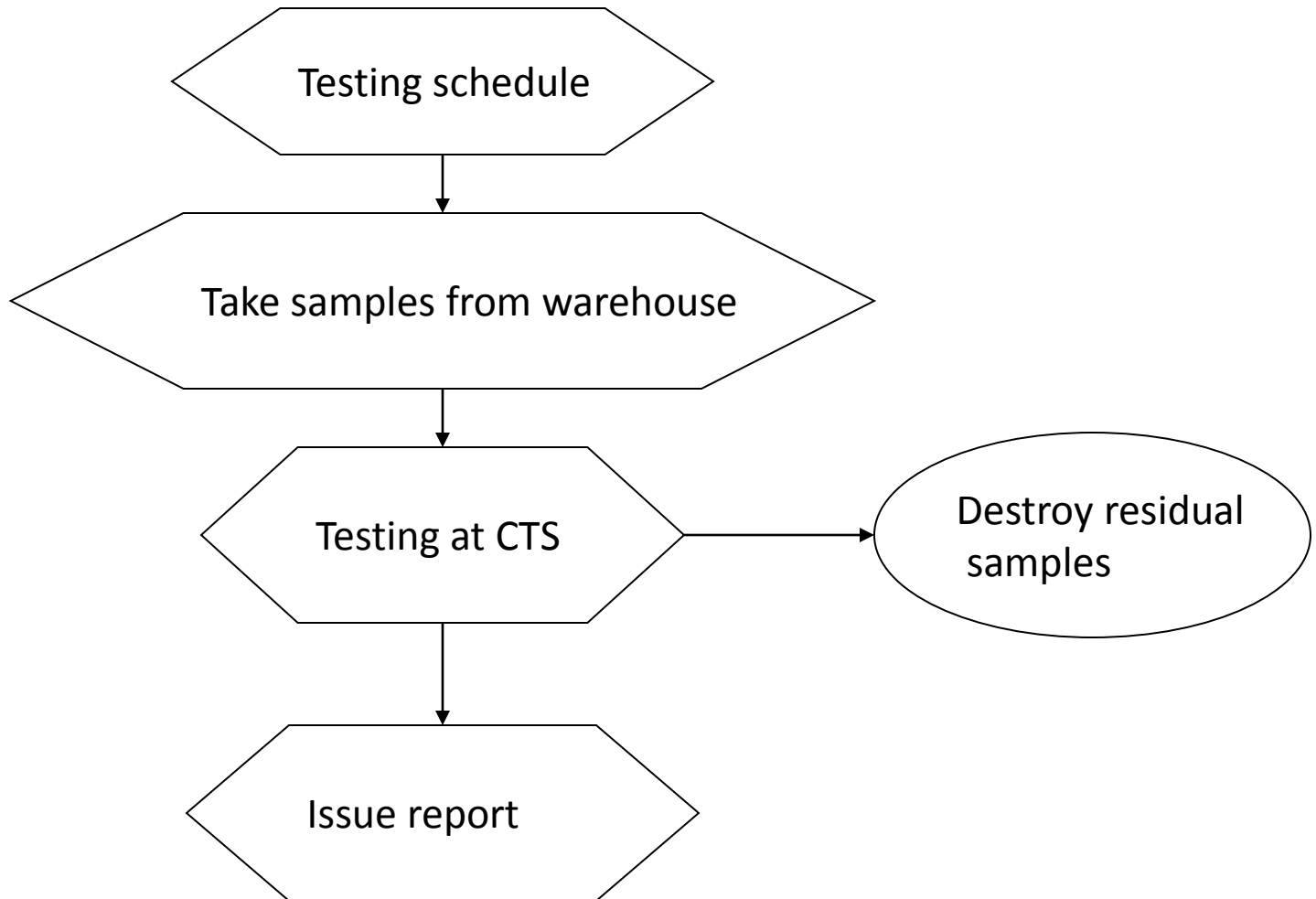
SAMPLING DETAILS

- Partial testing of each lot (cautionary label, tilt block test, partial fuse attachment and side ignition, pyrotechnic leakage...) will be done at sample collection site.
- Technicians will pack and securely seal all samples and clearly identify each.
- Samples will be placed in a secure location for pick up.

DETAILS FOR SAMPLE PICK UP

- AFSL technician will supervise sample pick up by the transportation service.
- Technician will confirm the sample identification mark on each package.
- Samples will be **Carefully** loaded onto the truck and delivered to the CTS.

TESTING FLOW CHART



STICKERS

- Complying lots will be scheduled for sticker application by AFSL technicians.
- Technicians will re-confirm Lot ID# on the shipment lot.
- Technicians will check shipping carton seals to confirm products have not been tampered with.
- Technicians will supervise sticker applications 100%.

STICKER APPLICATION



IMPLEMENTATION DATE

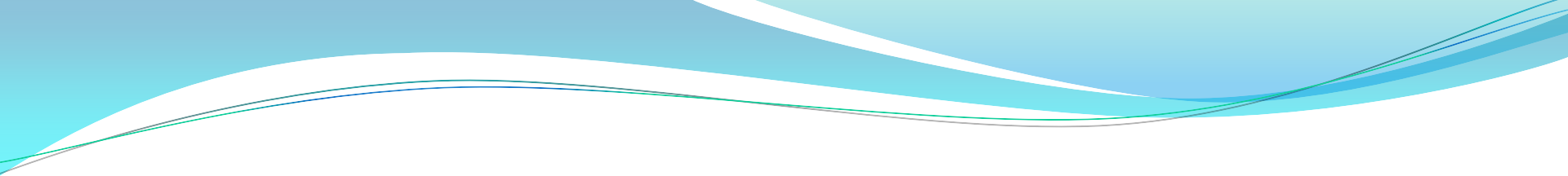
- September 1, 2012

Standard for Covered Fuses

- NFPA 1124, Code for the Manufacture, Transportation, Storage, and Retail Sales of Fireworks, requires that only consumer that have been successfully tested in accordance with PYR 1129 ... to determine compliance with the covered fuse requirements of this code shall be permitted where the retail sales of consumer fireworks are conducted.
- NFPA PYR 1129 specifies the test method for covered fuses.
- Effective date is August 29, 2012

Three Test Methods

- The Open Flame test conducted with a butane lighter which requires that the fuse cover resist ignition for 5 seconds;
- The Hot Surface test, which is performed by holding a lighted cigarette on fuse cover for 5 seconds; and
- The Spark Test conducted by aiming a spark-producing device (fountain) at the fuse from a distance of 24 inches for 30 seconds.

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- AFSL Board requested the Standards Committee to consider adding requirement for covered fuses to the AFSL Standards for Consumer Fireworks.
 - The Committee conducted testing at the November 2012 meeting, using the three procedures.

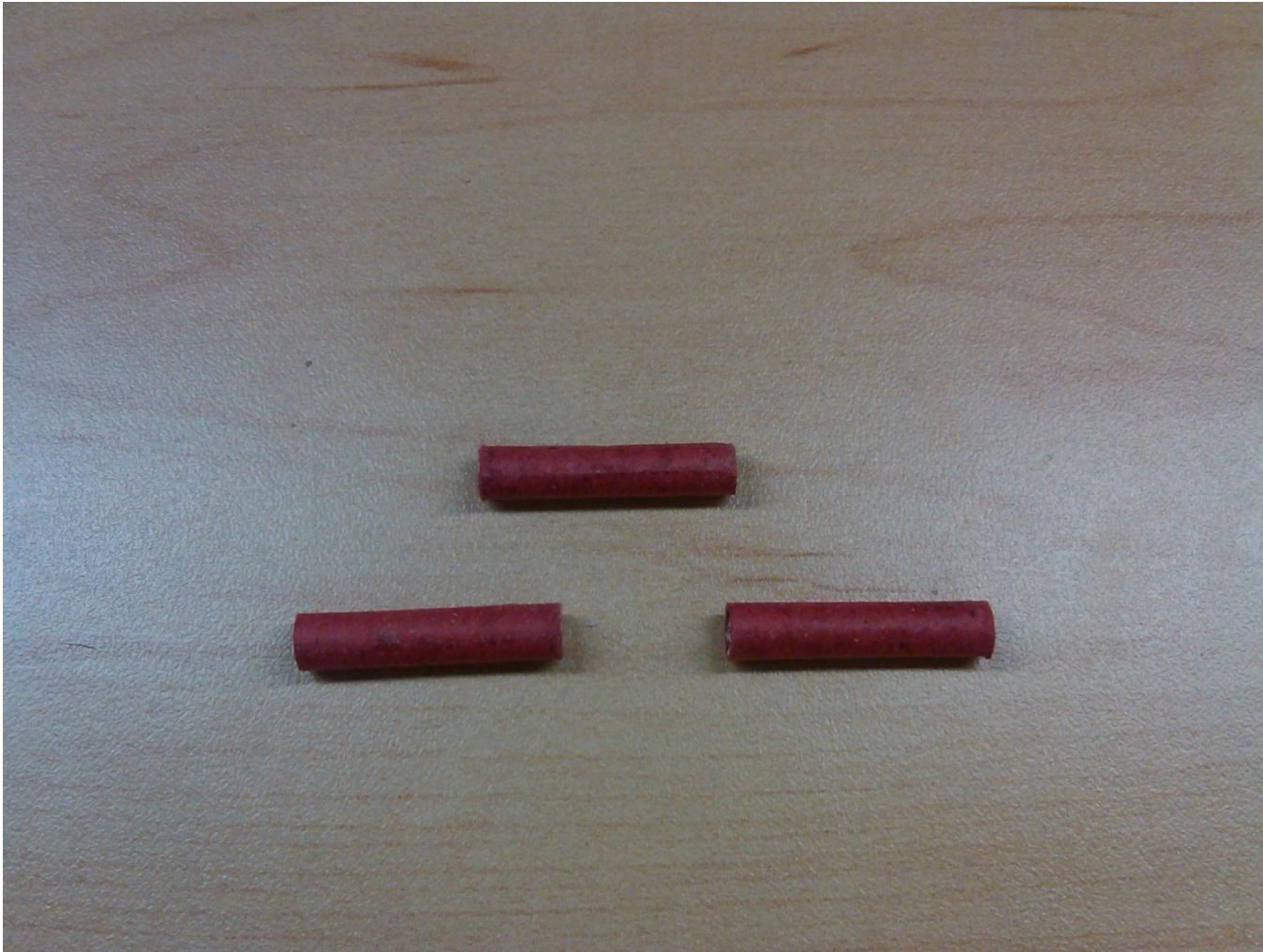




AFSL Requirement for Covered Fuses

- “Fireworks devices subject to this Standard must have covered fuses that successfully resist ignition from open flames, hot surfaces and incendiary sparks when tested in accordance with test procedures found in NFPA1129 -2013 Edition and any additional requirements specified by AFSL”.
- Effective Date: August 1, 2015

Requirements for Fuseless Firecrackers (Adult Snappers)



Requirements for Fuseless Firecrackers (Adult Snappers)

- Fuseless Firecrackers will not be tested under AFSL standard for Snappers .
- DOT will not issue EX number for Fuseless Firecrackers under the APA 87-1 standard.
- AFSL Board Approved Standards Committee's decision not to develop a standard for fuseless firecrackers due to safety concerns.

Safety Concerns

- Potential for injury to consumers (particularly children).
- Potential for manufacturers to increase composition to 50 mg., with increased injury potential.
- DOT will not issue EX numbers under 87-1 due to transportation concerns. EX Numbers may be obtained through laboratory testing procedure.

Options for AFSL Members

- Members may import fuseless firecrackers (adult snappers) without AFSL Testing/Certification.
- Still must meet CPSC requirements for filing. Certificates of Compliance (use of other approved labs for testing).
- Devices must comply with firecracker composition limit of 50 mg. and prohibited chemicals list.
- Warning Labels must meet firecracker labeling requirement: **“WARNING: EXPLOSIVE.”**
- A valid EX number must be obtained for transportation.

New Requirement for Lot I.D. Number and Sticker Location on Shipping Cartons

Purpose :

- To assist AFSL technicians in the proper application of Lot. I.D. stamps and stickers.
- To allow CPSC and DOT to more easily locate the Lot I.D. numbers and stickers.
- To provide uniformity in the AFSL certification process.

New Requirement for Lot I.D. Number and Sticker Location on Shipping Cartons

Dimensions:

For Lot I.D. stamps: 10 x 3 cm



Sticker: 6 x 4 cm



New Requirement for Lot I.D. Number and Sticker Location on Shipping Cartons

- For regular size cartons, the boxes should be printed horizontally on the shipping cartons.
- For small size cartons, the boxes can be printed vertically on the shipping cartons.
- The boxes should be printed in an area that is free of any other markings and away from seams where gum tape may be applied.
- Implementation Date: July 1, 2013.