



National Fireworks Association

Executive Director

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Alberta E. Mills
Office of the Secretary
Consumer Product Safety Commission
Room 820
4330 East-West Highway
Bethesda, MD 20814

RE: National Fireworks Association's Supplemental Comments related to Oral Presentations on Amendments to Fireworks Regulations [Docket No. CPSC-2006-0034]

To the Commission:

The flaw of the proposed Metals Ban was exposed at the March 7, 2018, hearing by the former AFSL Chairman Emeritus and Product Safety Liaison to the APA, CPSC, DOT, and Chinese Manufacturers, who, in an unscripted moment of candor, conceded that:

If you take metals out of explosive charges and the importers want more energetic explosive charges, Chinese manufacturers will figure out a way.¹

It is undisputed that the proposed Metals Ban fails to measure explosivity and that more energetic burst charges will be permitted than many of those that are banned.² It is undisputed that some current aerial devices that would fail the audible effects standard would pass the proposed Metals Ban, while others that would pass the audible effects standard would fail the proposed Metals Ban.

¹ Oral Comments of Joel Anderson. NFA has been reiterating this point for more than year, and is relieved that there finally appears to be industry agreement on it.

² On pages 6 and 7 of NFA's Comments, it provided examples (with pictures) of different aerial devices that are subject to the Metals Ban. The burst charges of these devices vary widely and, regardless of proposed composition limits, the proposed Metals Ban would inarguably ban devices with significantly lower energetics than others that it would allow.

No amount of red-herring arguments about composition limits³ or draft APA 87-1 revisions can address the failure of the Metals Ban to take into account the actual performance of the burst charges of aerial devices.

Even if we were to pretend for a moment that explosivity were being addressed, there is a complete dearth of data suggesting that the levels of explosivity in the burst charges of aerial devices commonly sold today present an *unreasonable* risk of injury.⁴ Data from the past twenty years showing a decline in injuries relative to imports during a period of sky-rocketing popularity of aerial devices (including legalization in at least 9 new states) belies the unfounded notion that current market norms are unacceptable.⁵ Serious incidents involving aerial devices are overwhelmingly associated with misuse and involve impact from the *lift* charge of the device, not the *burst* charge.

It may be convenient to resort to the argument that greater explosive strength means more likelihood of injury, and thus explosivity must be limited, but where is the data to support this? Where is the data showing that a reasonable amount of powdered metals in a *burst* charge to ensure the safe and proper functioning of the device would materially increase the likelihood or risk of injury? And beyond the abstract argument that “pow is ow”—*i.e.*, that greater explosive strength is disproportionately more dangerous and thus must be reduced by government fiat—what makes the risk *unreasonable*?

There are many consumer products that present risk but that do not present an *unreasonable* risk. For example, some snow skis are designed to go as fast as possible, and increased speed could be argued to increase the risk of injury. But the Commission does not regulate the speed of skis or the steepness of slopes. Instead, the Commission recognizes that consumers understand and accept the attendant risks of plunging down a double black diamond course at maximum velocity. While the Commission may seek to address unknown hazards such as faulty bindings, it does not simply say that all skis should be slower. The Commission should view aerial fireworks devices similarly. Just as some skiers will pro-actively seek out the fastest skis and most challenging courses, some

³ Current regulations—*e.g.*, the prohibition on aerial shells greater than 1.75”—already impose *de facto* limits on composition weight and ratios, and the NPR notes that 70-85% of tested devices already comply with proposed limits on chemical composition and pyrotechnic weight. 82 Fed. Red. 9019. It is undisputable that even with these proposed composition limits, the proposed Metals Ban would still ignore the performance of non-metallic burst charges, and would still arbitrarily ban burst charges with less explosive strength than others that it allows. The argument that the composition limits in conjunction with the Metals Ban somehow provides a rational basis for the Metals Ban is thus meritless.

⁴ Under 15 USCS § 1261(s), the Commission must determine (1) that risk posed by hazard is *unreasonable*, and (2) that there is sufficient nexus between regulation and hazard it is designed to prevent. *Forester v Consumer Product Safety Com.*, 559 F2d 774 (DC App 1977). Neither finding is supported by evidence or data on the record in this rulemaking proceeding.

⁵ Contrary to the unsupported assertions by some commentators of an increase in injuries or fatalities, CPSC’s compiled injury data actually shows a *decrease* in the rate of injury relative to consumer fireworks imports. This data appears on pages 10 and 11 of NFA’s comments, and is fully supported by CPSC staff’s own conclusions in a 2013 status report on fireworks where it recognized that despite the significant expansion since 1996 in the market for large aerial devices, “the annual fireworks injury report does not find a statistically significant trend in injuries in that period.” October 2013, Fireworks Safety Standards Development Project FY 2013 Status Report at 20-21.

fireworks aficionados will seek out the most dramatic devices. And some fireworks consumers, similar to some skiers, will engage in needlessly dangerous behavior despite clear warnings and reasonable precautions. The focus of regulation should continue to be on potentially unknown hazards (*e.g.* tip-over, blow-out, etc.) and not on obvious potential risks that consumers know and understand.

Considering the more than 2,000 comments submitted on the docket, it appears that consumers know and understand the risks associated with aerial devices; voluntarily assume those risks; and strenuously object to attempts to alter the formulations of today's aerial devices. In the words of some of these consumers:

Leave the current regulations alone. People are not getting hurt because of the contents of the products, they are getting hurt because they fail to follow the safety instructions on the products. Don't punish the masses because a small portion of consumers are making poor decisions. Thank you for considering the inputs of those who follow the safety regulations and enjoy these products correctly.⁶

This amendment does not appear to be based on facts. Anyone with a serious interest in fireworks realizes that fireworks can be dangerous when mishandled. The use of metals has not been proven to increase this danger. In fact, metals supply many of the beautiful effects found in modern fireworks. I believe that if safety truly is a concern, that the CPSC would do better by creating safety courses that consumers could attend. Keeping fireworks out of the hands of children and educating those interested in displaying fireworks would prevent more accidents than the ban that this amendment would implement.⁷

No inaccurate testing or regulation will make fireworks safer. Only education. 99% of people that use fireworks do so safely. Fireworks just like vehicles are up to the person using them safely and responsibly.⁸

As a taxpayer I believe that wasting money and time on taking out these powders. There is no true evidence that these powders actually harm the consumer, it's the manner that the consumer handles the firework.⁹

To the CPSC, As a trained pyrotechnician with over 20yrs experience, I am greatly concerned about the proposed changes to consumer fireworks. Not only are they unnecessary, but they could in fact make them more dangerous. There is nothing wrong with the current rules regarding the composition of consumer fireworks as they can be safely used when proper guidelines are followed. However, your

⁶ Comments of Cody Womack, CPSC-2006-0034-0972.

⁷ Comments of Charles Falsone, CPSC-2006-0034-1197.

⁸ Comments of Ian Hamilton, CPSC-2006-0034-0503.

⁹ Comments of Rikki Garcia, CPSC-2006-0034-1563.

proposed changes would weaken the burst charge of the breaks causing improper lighting of the effects. Burning debris would fall to the ground causing fires and other hazards. These changes simply would cause them to not function properly. There is no reason to do this! Consumer fireworks work well now and can be safely used without these changes.¹⁰

As an EMT I can tell you that most firework injuries are from children playing with sparklers followed by misuse often accompanied by alcohol usage. I also find that the more powerful fireworks are generally used more responsibly. I've never heard of a firework injury resulting from use of metals. Does evidence of such injury even exist? Your proposed regulation will effectively ban what I consider to be the safer fireworks. The result will be usage of more ground based fireworks and sparklers, the products I see the most injuries from. The proposed regulation will also foster more black market firework sales and illegal sales of professional fireworks to individuals seeking items similar to what they now purchase legally. Let's face it. Fireworks are an American tradition, especially on Independence Day, for millions and directly attached to a support of patriotism by many. This is not a tradition that can simply be banned or otherwise "watered down." As a medical professional I am all about safety, but not to the point of banning items that CAN and most often are used safely. Your proposal is not substantiated by real world evidence, will be costly in terms of testing, and will make the overall fireworks market more dangerous to consumers.¹¹

This is not to say that there should be no regulation of the explosive strength of the burst charges of aerial devices. There certainly are outliers—*i.e.*, devices designed with more explosive strength than necessary to create the effects of the devices. These are what the audible effects standard seeks to address. But the vast majority of products on the market today are designed with formulations in burst charges that are necessary to ensure the safe and proper functioning of the device,¹² and are nothing like the M-80's, cherry bombs, and other highly explosive devices (which often contained 30% powdered aluminum and 70% potassium perchlorate) that were the target of the audible effects standard. Most aerial devices today do not present an unreasonable risk of injury, as shown through the injury data, and any proposed revamp of the audible effect standard that has been in place for half a century should not require massive changes to the consumer fireworks market. While NFA supports reasonable guidelines on formulations of burst charges in aerial devices, such guidelines should preserve market norms while targeting outliers.

With those points in mind, NFA now turns to addressing the deficiencies in the record that should preclude promulgation of the proposed Metals Ban.

¹⁰ Comments of Wendell Yoder, CPSC-2006-0034-1788.

¹¹ Comments of David Nieuhaus, CPSC-2006-0034-1209.

¹² The use of powdered metals and non-metallic hybrid powders to create visual effects—including breaking apart shells, creating symmetry, igniting starts, etc.—has been well documented on the record. The use of the powders is integral to the safe and proper functioning of these devices, and should not be overlooked by the Commission.

I. The speculative safety benefits expected from the regulation do not bear a reasonable relationship to its costs.

Because the Metals Ban fails to improve safety, there is no benefit. The burden, however, is likely to be tremendous and likely to fall disproportionately hard on the shoulders of small businesses. These burdens have been extensively explained in NFA's comments and the oral presentation of Steve Houser, and are reinforced by the NPR's assertion that testing under the proposed Metals Ban resulted in a 394% increase of failures as compared to those under the current audible effects standard. NFA recognizes that the 84% failure rate under the proposed Metal Ban testing was based on a targeted sample, but so too was the 17% failure rate observed under the current audible effects standard. In other words, the 394% increase in failures noted in the NPR was based on an apples-to-apples sampling of targeted products. This 84% failure rate was included in the NPR to support a finding that there is not likely to be substantial compliance with a voluntary industry standard. CPSC cannot pick and choose when to use data and when to ignore it. Whatever the likely failure rate is under the Metals Ban as determined by CPSC staff, that failure rate must be considered for assessing the burden on industry.

A. The proposed Metals Ban will increase manufacturing costs and decrease consumer demand.

The potential costs associated with the proposed Metals Ban are widespread. Increased burdens will include the cost of failed product that cannot be sold, the cost of disposing of failed product (which costs often exceeds the value of the actual products), increased costs in manufacturing, increased costs in testing, and potential fines and penalties that may be sought by the CPSC.

There is also the cost of decreased consumer demand if devices fail to perform to consumers' expectations. Indeed, several commentators have stated that the proposed Metals Ban will decrease consumer demand:

I currently am the sales manager for a wholesale distribution company selling 1.4 consumer fireworks to retailers throughout the eastern United States. I am also a part owner of a large retail store that is open year round. . . . If you follow through on this change, the appetite for purchasing aerial fireworks will be extremely dampened, the consumer will spend less money on products and importers, wholesale distributors and retailers will suffer financially. This is not in the best interest of the economy. I appreciate the role that CPSC provides in promoting safety within our industry but let's not throw the baby out with the bath water when it will not effectively achieve the purpose for which the proposal is intended and it will be detrimental to the health of our industry.¹³

Just last week, I met with the owner of one of the biggest Chinese fireworks' factories that produces U.S. Consumer Fireworks. The owner said that if this regulation is approved, it will reduce the beautiful aerial breaks of Consumer

¹³ Comments of John Feigert, CPSC-2006-0034-2017.

Fireworks by 50%. For example, an aerial display that is typically 80' in diameter will be reduced to 40' in diameter.¹⁴

The elimination (<2%, for example) of reactive metal from the break charge would require a radical change in formulation, if such a change is even feasible, to produce anything close to the current large break size that the American public is accustomed to enjoying.¹⁵

Please consider that the use of metals has a big part in the effects and the beauty of the fireworks... It gives us something to look forward too every year.¹⁶

While some large companies may be able to control manufacturing variances, obtain alternative burst powder formulations, and limit contamination to sufficient levels to pass the Metals Ban, other companies, especially smaller ones, are unlikely to be able to do so. Further, while some alternative pyrotechnic compositions may exist that can produce some of the visual effects that consumers demand, those alternative compositions are not available to all businesses. More, some businesses report that the changes to the manufacturing process alone are likely to raise costs beyond the point at which they would be able to compete with the industry titans.

B. The proposed Metals Ban will increase the cost of testing

The cost of testing would also spike under the Metals Ban, especially for smaller businesses that want options in testing laboratories. NFA obtained quotes from two fireworks testing laboratories to determine the effect that the Metals Ban would have on the cost of testing.¹⁷ Both laboratories provided similar quotes confirming that imposing the Metals Ban would dramatically increase the cost of testing approximately \$100 *per sample*.¹⁸

The first laboratory quoted an increase in cost of 600 RMB (\$94.95) per sample for adding XRF testing to its current CPSC protocol:

¹⁴ Comments of Tennessee Fireworks Association, CPSC-2006-0034-2238.

¹⁵ Comments of Clifford J. Rotz, CPSC-2006-0034-2434.

¹⁶ Comments of Andres Robles, CPSC-2006-0034-1092.

¹⁷ Neither laboratory was told that a quote had been requested from another laboratory, and no suggestion was made as to the potential costs. There was no mention to the laboratories of the purpose of obtaining the quote. Both laboratories independently reached a number of approximately \$100 per sample for testing under the proposed Metals Ban.

¹⁸ A “sample” is a particular item. Depending on the number of items tested, the total cost of testing for a container could be even greater. For example, a container with 40 items would cost an additional \$4,000.

yes. 600RMB is the addition.

[REDACTED]
[REDACTED] 21:25
[REDACTED]
[REDACTED]
[REDACTED]: RE: test of report poeder

Dear Mr. [REDACTED]

◆◆◆◆ Thank you for your help. I just need to clarify.

Is the 600RMB/sample below what you would charge for doing XRF testing in addition to the usual charges for testing to CPSC standards?

Please let me know as soon as you can.

Thank you,

[REDACTED]

[REDACTED]

[REDACTED]

From: [REDACTED]
Sent: Monday, March 12, 2018 8:28 AM
To: [REDACTED]
Subject: test of report poeder

Hello, [REDACTED]:

This [REDACTED] from [REDACTED].

[REDACTED]

for XRF test,

As for charging, according to our current fee standar, One sample tested magnesium, aluminum, titanium, zirconium and other common metal elements, the standard is 600RMB/sample. How to calculate by 200~400 boxes/batch, about cost 1.5~3RMB/batch.

BEST REGARDS

The second laboratory provided a comparable quote of approximately \$100 per sample:

From: [REDACTED]
Sent: Monday, March 12, 2018 10:42 AM
To: [REDACTED]
Subject: RE: Third Party Testing for Fireworks

It is per sample because it is a laboratory test. If there is a lot of fireworks, that will involve sampling which can have several samples. Or if there is a cake, different tube within the cake may also generate different samples.
I hope it is clear.

[REDACTED]

[REDACTED]

From: [REDACTED]
Sent: Monday, March 12, 2018 10:24 PM
To: [REDACTED]
Subject: Re: Third Party Testing for Fireworks

Thank you [REDACTED] that is helpful. The \$100 figure is based on what (per carton, container, scan)?

Thanks,

[REDACTED]

Hi [REDACTED]
Our regular price of lead content is RMB500 per sample, plus 5% tax. So it is roughly less than US\$100.

[REDACTED]

From: [REDACTED]
Sent: Monday, March 12, 2018 8:59 PM
To: [REDACTED]
Subject: RE: Third Party Testing for Fireworks

Thank [REDACTED] It is not urgent and we can talk when you are back to Hong Kong. I am interested to know what you would charge for XRF testing if the proposed rule goes into effect, and how that would compare to what you charge now for determining whether an aerial device is subject to the two grains limit.

[REDACTED]

[REDACTED]

An increase of approximately \$100 per sample represents an approximate increase of 50% - 100% over the current cost of testing for *all* CPSC regulations. This dramatic increase in the cost of testing will be unbearable for many small business, especially coupled with the increased costs in manufacturing, failed products, and decreased product demand.

In sum, the Metals Ban will impose significant burdens on the fireworks industry by decreasing consumer demand, increasing the cost of manufacturing, and increasing the cost of testing. In light

of these burdens and the speculative safety benefits, it is difficult to see a rational basis for the proposed Metals Ban.

C. Reliable testing of the amount of powdered metal in burst charges of aerial devices is cost prohibitive at approximately \$1,000 per sample.

Another significant cost associated with the proposed Metals Ban is the lack of any direct test for the presence of powdered metals in the burst charges of aerial devices. It is undisputed that neither XRF nor ICP-OES testing is capable of distinguishing between metal, which would be prohibited, and metallic compounds, which would be permissible. Testing by XRF or ICP-OES thus would be insufficient to provide manufacturers or CPSC enforcement staff with any certainty about the actual levels of powdered metals in the burst charge of any particular device. At best, ICP-OES can detect the total amount of both metallic compounds and elements, but it cannot distinguish between the two. To determine the actual amount of powdered metals in a burst charge, the burst charge of an aerial device would need to undergo a vacuum system based gas volumetric measurement, which is likely to cost approximately \$1,000 per device tested.¹⁹ The lack of any direct test for powdered metals in burst charges is thus another significant burden that would be imposed through the Metals Ban.

D. Other regulations or standards do not alleviate the economic burden.

Existing DOT regulations that permit—but do not require—compliance with APA 87-1's prohibition on powdered metals in the burst charges of aerial devices fail to excuse the Commission of its obligation to consider the actual economic burden that will be placed on the industry through the Metals Ban. While cross-examining industry representatives about DOT compliance may make for good theater, it callously ignores the actual economic harm that would result from a 394% increase in product failures under an arbitrary rule with an impossible zero standard that does *not* improve consumer safety.

And as has been pointed out in the record, under current DOT regulations, manufacturers may obtain approval for shipping consumer aerial devices *with* powdered metals in burst charges through laboratory examination and testing under 49 CFR 173.56. Under this method, an application for EX classification approval must be supported by examination and class recommendation from a DOT-Approved Explosive Test Laboratory. (Approval can also be by a competent authority of a foreign government.) Upon submission of the application, if the testing supports classification as a 1.4G firework, an EX Number can be obtained *regardless* of whether the device complies with APA Standard 87-1. If DOT were to begin vigorously enforcing the arbitrary prohibition on powdered metals in APA 87-1 (which allows for whistle mix and other

¹⁹ Vacuum system based gas volumetric measurements are labor intensive and involve: (i) drying and weighing the sample; (ii) removing soluble components with mass determinations made between extractions (gravimetric analysis); employing Ion chromatography where appropriate; removing iron and other ferromagnetics with a magnet; (iii) removing magnesium, if present, in the formation of a Grignard reagent, or by its reaction with anhydrous methanol; (iv) transferring insolubles to a reaction vessel which is part of a sub-system of a glass, high vacuum system that is equipped with a constant volume manometer and appropriate traps; (v) adding diluted sulfuric acid and heating as necessary; (vi) measuring the volume of any hydrogen gas evolved at a known pressure and temperature; and (vii) calculating the metal content in the original sample.

hybrid formulations) it is likely that manufacturers would begin obtaining more EX numbers via examination and testing under 49 CFR 173.56.

Proposed revisions to APA 87-1 likewise fail to relieve the Commission of its obligations under FHSA and APA.²⁰ The proposed revision to APA 87-1 again fails to address outliers with non-metallic compositions and compounds. In other words, the proposed 87-1 revision again misses the mark on any potential safety justification. More importantly, the proposed APA 87-1 revision is *not* the proposal before the Commission, and thus is irrelevant to determining the merits of the proposed Metals Ban.

In sum, the Metals Ban will impose significant burdens on the fireworks industry, and especially small businesses, by decreasing consumer demand, increasing the cost of manufacturing, and increasing the cost of testing. In light of these burdens and the speculative safety benefits, it is difficult to see a rational basis for the Metals Ban.

II. The regulation fails to impose the least burdensome requirement that adequately reduces the risk of injury the regulation aims to address.

The proposed Metals Ban fails to measure the performance of aerial devices and thus fails to reduce the risk or likelihood of injury. At least three less burdensome alternatives exist: (A) reasonable limits on the use of powdered metals; (B) the audible effects standard; and (C) sound-level-meter testing.

A. Reasonable permissible allowances for powdered metals is less burdensome than the proposed Metals Ban.

The potential burden of the proposed Metals Ban could be significantly reduced by setting a permissible limit on powdered metals that: (i) would allow for the same performance levels as non-metallic powders that are permissible under the Metals Ban; (ii) reflects market norms while banning outliers; and (iii) provides sufficient performance for the safe and proper functioning of aerial devices.

The proposed Metals Ban allows for the use of hybrid and whistle-mix formulations that can have greater energetic strength than black powder mixed with reasonable amounts of powdered metals. Given that the Metals Ban permits the use of these alternative formulations, powdered metals should also be permitted in amounts that would provide comparable performance as the other powders that are allowed. Expressly permitting powdered metals in such levels would significantly reduce the potential burden of the proposed rule by addressing concerns about contamination, manufacturing variances, and decreased consumer demand for products. The limit

²⁰ NFA was unable to assess the shortcoming of the proposed APA 87-1 revision until now because APA did not make its draft revisions public until the day *after* the CPSC public meeting, when it sent an email to its general membership informing them that a revised version has *already* been submitted to DOT with a petition for rulemaking. The clamor of dissent from industry stakeholders (including APA members) who had no meaningful opportunity to comment on the proposal has been intense. NFA has already filed an opposition to the APA petition with DOT, and anticipates significant industry objection similar to what has been observed in these proceedings.

should, of course, be set below what is used for outlier products. As stated in NFA's prior comments, NFA recommends a 15% metals allowance.

There are three reasons why a 15% metals allowance would be less burdensome while addressing the performance of aerial devices in a manner comparable as proposed by the Metals Ban. *First*, a burst charge with 15% powdered metals would allow for performance comparable to hybrid formulations permitted by the proposed Metals Ban. Exceeding 15% would likely permit more powerful devices than the non-metallic powders permitted by the proposed Metals Ban and thus is a reasonable limit. Also, most devices could be engineered to perform in a safe and proper manner with less than 15% powdered metals in their burst charges. *Second*, a burst charge with 15% powdered metals would have significantly less (about 50% less) powdered metals than the charges that were commonly used in the devices that were the subject of the original audible effects standard (e.g. M-80's). In other words, a 15% metals allowance would be consistent with the regulatory findings used to enact the audible effects standard in the first instance. *Third*, from CPSC's data in Tables 5 and 6 of the Briefing Packing of the NPR, it appears that a 15% powdered metals limit would ban outliers and maintain a failure rate closer to that under the current audible effects standard.²¹

Consideration may also be made of the size and type of device that is being regulated. For example, a relatively small aerial device, such as a small cake shot, should be permitted to have a burst charge of higher explosive strength, but lesser quantity than a larger cake shot with a greater quantity of a lower explosive strength burst charge. This would avoid arbitrarily banning products with less explosivity per functioning device, regardless of burst charge composition. Design standards that ban outlier products while maintaining market norms would present a least burdensome requirement while adequately reducing the risk of injury.

In any event, there is no justification for any permissible limit of Powdered Metals below 5%. As stated on the record several times by AFSL, and based on testing data from Bureau Veritas, there is no statistical increase below 5% powdered metals in the energetics of burst charges.²² This conclusion is fully supported by the Myatt Report, *Explosive Output from Blackpowder/Metal Compositions*, which demonstrates no material increase in explosive strength at this level.²³ AFSL even conceded at the March 7 hearing that its proposed permissible allowance of 2 percent was a

²¹ The NPR cites the failure rate under the audible effects standard to be 17%. Based on XRF data in Tables 5 and 6 of the Briefing Package, a 15% metals allowance would result in a failure rate of 19%. While this failure rate would be higher than that under the audible effects standard, it would be lower (and thus less burdensome) than the 84% failure rate under the proposed Metals Ban.

²² AFSL/APA October 2016 Comments ("Only at 5 percent and then again at 10 percent did the force generated by the presence of metal in the break charge cause significant increases in the force (energy) generated by these fireworks." APA). AFSL/APA July 2017 Comments ("AFSL has further demonstrated that there is no statistically different force generated by shells containing two, one and zero percent fine mesh aluminum metal in the break charge composition. Only at five percent and then again at 10 percent did the force generated by the presence of metal in the break charge cause statistically significant increases in the recoil force generated by these fireworks, which represents a reliable analog to the total explosive force of a break charge.").

²³ The Myatt Report was attached to Dr. Schneider's written comments submitted for the March 7 meeting.

number that was essentially an attempt to reach a common ground between staff's proposal of zero, and AFSL's data supporting a 5% powdered metals allowance:

Mr. Adler, I think at 2%, we're taking the easy way out. Talking extensively to Chinese manufacturers [00:59:30] on the question, they say that a zero tolerance is possible to meet, but it's extremely difficult and it's very expensive, and they don't want to go there. They urge the industry not to go to zero tolerance. We've looked at the other end of it and determined, this is principally through testing done by BV, that you can include metals up to 4% or 5% without any material effect on the energy produced [01:00:00] of the firework. Two is between nothing and five. Chinese manufacturers say, "2%, easy. We can do that. It's not a problem." BV tells us and the research tells us that at 2% you're not increasing energy. You're not going to hurt people. So, it's a middle number.²⁴

In sum, uncontroverted evidence on the record supports a permissible powdered metals allowance of no less than 5%. An allowance of 5% would prove a less burdensome alternative to the Metals Ban.

B. The audible effects standard is less burdensome than the proposed Metals Ban.

The current audible effects standard is a less burdensome requirement than the Metals Ban, and thus should be maintained if an adequate replacement cannot be found. The 17% failure rate reported in the NPR under the audible effects standard is unquestionably less burdensome than the 84% failure rate reported in the NPR under the Metals Ban. There is no need for massive overhauls in the manufacturing process under the audible effects standard, and there is no detrimental impact on consumer demand for aerial devices. Further, although the "ear test" that is used to enforce the audible effects standard is subjective and imprecise, at least it is capable of detecting unreasonably explosive burst charges that do not contain powdered metals.

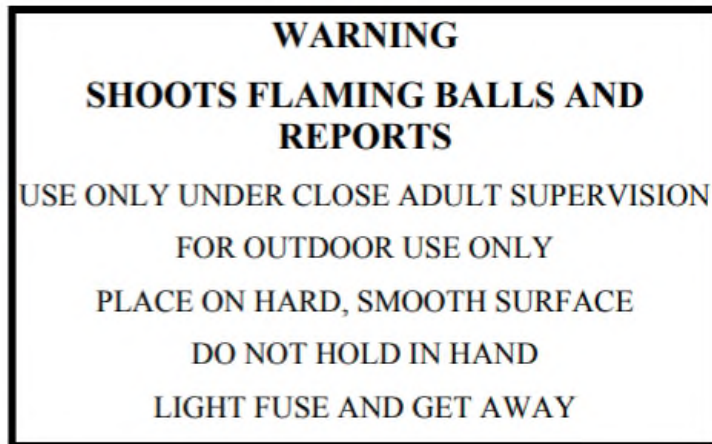
C. Sound-level-meter testing is less burdensome than the proposed Metals Ban.

In addition to the less burdensome options of sensible design standards that maintain market norms or maintaining the audible effects standard, sound-level-meter (SLM) testing would be another less burdensome alternative to the Metals Ban. The Myatt Report, as well as other documents submitted on the record by NFA, demonstrate configurations for carrying out SLM testing. It is undisputed that SLM instruments cost significantly less than any of the devices or laboratory procedures that may be used to enforce the Metals Ban. And unlike the Metals Ban, which ignores the performance of aerial devices, SLM testing could be calibrated and weighted to detect and distinguish pressure levels produced by burst charges of various pyrotechnic compositions and designs.

²⁴ Oral Comments of Joel Anderson.

III. Cautionary labeling is an adequate measure to protect the public from the degree or nature of the hazard.

There is no data to show that current labeling on aerial devices is inadequate to protect the public from the degree or nature of the hazard of burst charges of aerial devices. To the contrary, current cautionary labels are sufficient to protect against the risk of injury from the burst charges of aerial devices. Unlike some products (*e.g.* small magnets) where warning labels cannot accompany the regulated products, aerial devices do carry warning labels, similar to the one below that is for mines, shells, or shots with report:



This risk of injury from the burst charges of aerial devices is virtually eliminated by following these warning labels. As shown through the analysis of the CPSC injury data in NFA’s comments, nearly all serious injuries occurred either from (i) holding a device against the body instead of putting it on a hard, smooth surface, and (ii) not getting away from the device after lighting the fuse. There is no data to suggest that the warnings were inadequate to protect against these injuries; it tragically appears that a small percentage of individuals simply choose to ignore these warnings.

* * *

NFA appreciates the Commission’s and its staff’s commitment to safety, and their attempt to improve fireworks regulations in the United States. But because the proposed Metals Ban would hurt the fireworks industry without improving safety, NFA urges the Commission to end rulemaking on the Metals Ban, or to approve reasonable allowances for powdered metals. In the event that a future proposal is put forth to replace the audible effects standard, it is critical that the proposal preserve the popular aerial devices that consumers have enjoyed for decades and that have been proven safe with proper use.

Sincerely,

Nancy Blogin
Executive Director
National Fireworks Association