

LATE TESTIMONY

Date: February 8, 2010

To Senate Committee on Public Safety and Military Affairs

Subj: TESTIMONY IN SUPPORT OF Bill SB2365 –
Hearing Date/Time: 2/9/2010, 2 PM

It is apparent to me at least that the existing laws in effect for a number of years have been ineffective in restricting use of highly-explosive gunpowder-type fireworks (aerial and home-made in particular) in our neighborhoods. It is well-known that fireworks can and have led to serious and permanent injury and fire loss. If it were not for the fire department and the individual property owners who feel they have no choice but to stand guard to protect their property on the days or weeks before New Year's Eve, there would be a lot more injuries and damage.

I have personally witnessed hearing extremely loud explosions of aerial bomb-type fireworks set off by others within my Pearl City community. The bombs rattle my walls, jalousie windows, unnerve my pets, interrupt my sleep and leave unwanted debris on my car, my yard and sidewalk. I have had to purchase tranquilizers for my pets and have had to leave my neighborhood (with my pets) to spend evenings away at my relative's air-conditioned home because of the noise and smoke.

I remember, before aerial fireworks became the fad, that the Christmas season was a time of peace and joy. Recently, I equate the holidays with the sound of exploding bombs. This activity begins a few days before Halloween, through Thanksgiving, Christmas, New Year's Day and were even being set off yesterday in my neighborhood during the Super Bowl telecast and before the final outcome of the game itself.

I respect traditional and cultural practices but aerial fireworks could not possibly be a part of that tradition and practice. I, therefore, believe that our laws should restrict usage from and penalize those that have very little or no respect for the rights or safety of others.

I support SB2365, and any such bill that is intended to effectively restrict the selling or private use of fireworks within areas of the State of Hawaii. Such a ban hopefully will effectively eliminate the uncontrolled use of extremely loud and harmful fireworks.

Russell Hirata
Email: rshpc1893@gmail.com

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Email: rshpc1893@gmail.com

LATE TESTIMONY

February 9, 2010

To: Public Safety & Military Affairs Committee

I wish to offer the following regarding fireworks in Hawaii in support of SB 2365.

I have never lived in a place such as this, where fireworks are uncontrolled and barely regulated. I would add that this issue is no longer about "firecrackers" but rather about the use of illegal aerals and what can only be called bombs.

Peace and quiet is shattered throughout the state. There is absolutely no place to escape to in an effort to avoid the bomb blasts and smoke. I cannot drive to another county or another state; I and my pets are trapped in my house. My animals are frightened beyond belief and I find myself jumping out of my chair as aerial bombs continually blast high into the sky. Thick acrid smoke hangs in the air and I have to sit in my house with the windows closed and no air conditioning.

I ask why should I and many others have to suffer? The air pollution is obvious but what most Hawaiians do not understand that the pollution doesn't just blow away, it contributes to air pollution everywhere. So many Hawaiians claim to be so concerned about the land, if true, why would they ever allow all of those harmful chemicals and metals to leach into the soil and into the ocean? Paper, plastic, gun powder, and residue lay in the streets after and end up washed into the drains.

How many injuries this year? Two children severely burned as a result of a silly old tradition. Is it really worth it? Those two children will be scarred for life. Each year the Fire Chief and Police Chief urge the City, County, and State to enact a ban on all personal fireworks but those educated, professional pleas go unheeded. The fire department has to go on high alert and chase down fires all over Oahu and the state. A needless waste of resources that endangers our citizens and our firefighters. The police are stretched to the maximum chasing down "ghost" offenders who cannot be identified, meanwhile the police are diverted from their primary mission to fight crime and protect citizens. 911 lines are so tied up with complaints that critical 911 emergency callers are forced to wait several minutes which could be the difference between life and death. Absolutely absurd in all respects. As stated below, **"would you trust the quality of your air to China?"**

It is time for Hawaii to grow up and learn that often we must recognize and change old traditions as we learn that they are harmful and of little social benefit.

There is no reason why Hawaii cannot move into the 21st century and allow only professional fireworks displays that folks can enjoy safely and sanely. It is time for sanity to rule instead of emotion. I urge your complete support for SB 2365.

Sincerely,

J. Such

Kapolei, HI. 96707

Please see the following as support:

See: <http://environment.about.com/od/healthenvironment/a/toxicfireworks.htm>

Dear EarthTalk: Do fireworks celebrations cause any significant pollution?

—David Hiebert, Scottsdale, PA

Perhaps it should come as no surprise that the fireworks displays that go on around the U.S. every Fourth of July are still typically propelled by the ignition of gunpowder—a technological innovation that pre-dates the American Revolution itself. And the fall-out from these exhibitions includes a variety of toxic pollution that rain down on neighborhoods from coast to coast, often in violation of federal Clean Air Act standards.

Fireworks Can Be Toxic to Humans

Depending on the effect sought, fireworks produce smoke and dust that contain various heavy metals, sulfur-coal compounds and other noxious chemicals. Barium, for instance, is used to produce brilliant green colors in fireworks displays, despite being poisonous and radioactive. Copper compounds are used to produce blue colors, even though they contain dioxin, which has been linked to cancer. Cadmium, lithium, antimony, rubidium, strontium, lead and potassium nitrate are also commonly used to produce different effects, even though they can cause a host of respiratory and other health problems.

Fireworks Contribute to Environmental Pollution

The chemicals and heavy metals used in fireworks also take their toll on the environment, sometimes contributing to water supply contamination and even acid rain. Their use also deposits physical litter on the ground and into water bodies for miles around. As such, some U.S. states and local governments restrict the use of fireworks in accordance with guidelines set by the Clean Air Act. The American Pyrotechnics Association provides a free online directory of state laws across the U.S. regulating the use of fireworks.

Fireworks Add to Worldwide Pollution

Of course, fireworks displays are not limited to U.S. Independence Day celebrations. Fireworks use is increasing in popularity around the world, including in countries without strict air pollution standards. According to *The Ecologist*, millennium celebrations in 2000 caused environmental pollution worldwide, filling skies over populated areas with “carcinogenic sulphur compounds and airborne arsenic.”

Disney Pioneers Innovative Fireworks Technology

Not usually known for championing environmental causes, the Walt Disney Company has pioneered new technology using environmentally benign compressed air instead of gunpowder to launch fireworks. Disney puts on hundreds of dazzling fireworks displays every year at its various resort properties in the U.S. and Europe, but hopes its new technology will have beneficial impact on the pyrotechnics industry worldwide. The company has made the details of new patents it has filed for the technology available to the pyrotechnics industry at large with the hope that other companies will also green up their offerings.

Do We Really Need Fireworks?

While Disney’s technological breakthrough is no doubt a step in the right direction, many environmental and public safety advocates would rather see the Fourth of July and other holidays and events celebrated without the use of pyrotechnics. Parades and block parties are some obvious alternatives. Meanwhile, laser light shows can wow a crowd without the negative environmental side effects associated with fireworks.

And: http://www.backcountryattitude.com/toxic_fireworks.html

Fireworks - Cheap Thrills with Toxic Consequences

Pollution from Fireworks is an Unnecessary Risk to Our Personal and Environmental Health

Why Celebrate those Special Occasions by Polluting?

Is poisoning the air and water a patriotic way to recognize the 4th of July??

Is unnecessary air pollution a good way to ring in the New Year??

Do you consider yourself environmentally conscious and responsible?? You might not know that all those colorful explosives used to celebrate special occasions.... (your firecrackers, skyrockets, Roman candles and yes even those so-called "harmless" sparklers)... pose a serious environmental and health danger from heavy metals and other toxic firework fallout. So the next time you are about to set off or buy some cheap fireworks or even attend an outdoor fireworks display, ask yourself..... **Is a few minutes of pyrotechnic entertainment really worth needlessly polluting the environment?**

What's fun about the pollution from fireworks?

How Fireworks Cause Pollution

Fireworks contribute to polluting or damaging our planet in various ways throughout their life cycle.

- **Manufacturing:** Raw materials and energy are used to create the final firework product. Firework ingredients often come from elements that need to be mined from the earth. Mining is not exactly environmentally friendly. Minerals then need to be processed and isolated... often with chemicals. Fireworks use plastic plus paper & cardboard (which kills trees) and are all made at factories that pollute.
- **Transportation:** Firework components are transported to the firework assembly plant, finished fireworks are transported to their various distribution centers and stores. Transporting may include planes, boats, and trucks. I don't need to tell you the pollution that vehicles cause. And don't forget that the consumer drives to purchase the fireworks, sometimes hundreds of miles to another state to bypass local restrictions.
- **Combustion:**
 - **Air Pollution:** The smoke from fireworks consists mainly of fine toxic dusts (particulate matter) that can easily enter the lungs. This represents a real threat for people with asthma or multiple chemical sensitivity (MCS). Smoke from fireworks combustion may contain a mixture of sulfur-coal compounds, traces of heavy metals, and other toxic chemicals or gases. The combustion cloud can contain harmful fumes such as ozone, sulfur dioxide and nitric oxide. Smoke from consumer fireworks is of most concern because they are released at a low level which makes inhalation more likely compared to professional displays. Additionally, in this time where the issues of climate change and global warming are being presented with a sense of urgency, we need to be concerned about the greenhouse gases fireworks produce, which include Carbon dioxide (CO₂) and ozone.
 - **Water Pollution:** Fireworks fallout can contaminate water supplies and residue on the ground can be carried away by rain and end up in our lakes, rivers, or oceans.
 - **Noise Pollution:** Fireworks can be loud and the vibrations can travel far. In the middle of the night fireworks often disturb people trying to sleep. Fireworks can exceed 140 decibels and noise at 85 decibels or above can damage hearing. Some people also argue the noise from fireworks scares pets.

- **Accidents:** In 2000-2004, fireworks started an estimated 32,300 reported fires per year, including 2,700 building and vehicle fires. More fires are reported on the 4th of July than any other day of the year [1].

For the color effect of fireworks, toxic heavy metals like barium, aluminum, lead, mercury salts, antimony, copper, and strontium can be used in firework compositions. Outdated heavy metals that have been used in the past include rubidium and cadmium. Some toxic elements are supposedly not used in fireworks anymore like lead compounds, chlorates, and mercury as mercurous chloride (calomel), but some firework chemical outlets still sell some of these ingredients, they can still be seen in some pyrotechnic chemical lists, and homemade fireworks makers still sometimes talk about using them.

Many fireworks are imported from China which is scary because they have a proven track record of cutting corners by using cheaper, more toxic materials. Some of the metals also have radioactive isotopes... hopefully they aren't being used in any fireworks. The American Fireworks Standards Laboratory (AFSL) has established a testing and certification program for Chinese and U.S. fireworks to determine if they are being produced according to AFSL Standards (which meet all U.S. federal requirements). There is a list of prohibited toxic chemicals in the standards but unfortunately participation in the program is voluntary for manufacturers and importers. Firework shipments that pass standards only assure that one random sample from the lot has been tested and met all requirements [2].

Will you trust the quality of your air to China??

The Toxic Elements of Fireworks - Pick Your Poison

<u>Toxic Element</u>	<u>Fireworks Usage</u>	<u>Toxic Effect of Fallout Dust & Fumes</u>
Aluminum	brilliant whites	Contact dermatitis, bioaccumulation
Antimony sulfide	glitter effects	Toxic smoke
Barium Nitrate	glittering greens	Poisonous. Fumes can irritate respiratory tract. Possible radioactive fallout. [3]
Copper compounds	blues	Polychlorinated dioxins and dibenzofurans. [9] Can bioaccumulate. Cancer risk.
Lead Dioxide / Nitrate / Chloride	oxidizer	Bioaccumulation, developmental danger for kids & unborn babes, may remain airborne for days, poisonous to plants & animals
Lithium compounds	blazing reds	Toxic and irritating fumes when burned
Mercury (Mercurous chloride)	chlorine donor	Toxic heavy metal. Can bioaccumulate.

Nitric oxide	fireworks byproduct [6]	Toxic by inhalation. Is a free radical
Nitrogen dioxide	fireworks byproduct [6]	Highly toxic by inhalation. SIDS risk [8].
Ozone	fireworks byproduct [7]	Greenhouse gas that attacks & irritates lungs
Perchlorate - Ammonium & Potassium	propellant / oxidizer	Can contaminate ground & surface waters, can cause thyroid problems in humans & animals
Potassium Nitrate	in black powder	Toxic dusts, carcinogenic sulfur-coal compounds
Strontium compounds	blazing reds	Can replace calcium in body. Strontium chloride is slightly toxic.
Sulfur Dioxide	gaseous byproduct of sulfur combustion	Acid rain from sulphuric acid affects water sources, vegetation & causes property damage. SIDS risk [8].

Fireworks Research: A case study has shown that within 1 hour of fireworks displays levels of Strontium in the air increased 120 times, Magnesium 22 times, Barium 12 times, Potassium 11 times, and Copper 6 times more than the amount present in the air before the event. Strontium was found to be the best tracer in this study because it measured very high during the event and much lower at other time intervals which indicated that it was mostly a result of the fireworks display. [4]

Another study found that firework events brought air pollution spikes in suspended particles, Nitric oxide (NO), Sulfur dioxide (SO₂), and created and dispersed an aerosol cloud hosting a range of metallic elements. The researchers found that although the "recreational pollution" from fireworks is transient in nature, the pollutants are highly concentrated and add significantly to the total yearly metal emissions and the particles are on average small enough to be easily inhaled which poses a health risk to sensitive individuals. [5]

Researchers have found that fireworks can create a burst of ozone which is an extremely reactive greenhouse gas molecule that can attack and irritate the lungs. The ozone is believed to be caused by ultraviolet light released by chemicals in fireworks... which in this study were sparklers. [7]