

NEIL ABERCROMBIE  
GOVERNOR



DWIGHT TAKAMINE  
DIRECTOR

AUDREY HIDANO  
DEPUTY DIRECTOR

STATE OF HAWAII  
DEPARTMENT OF LABOR AND INDUSTRIAL RELATIONS

830 PUNCHBOWL STREET, ROOM 321  
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February 22, 2012

The Honorable Gilbert Keith-Agaran, Chair  
Committee on Judiciary  
House of Representatives  
State Capitol, Room 302  
Honolulu, Hawaii 96813

Dear Chair Keith-Agaran:

Subject: H.B. 2113 Relating to Fire Protection

I am Kenneth G. Silva, Chair of the State Fire Council (SFC) and Fire Chief of the Honolulu Fire Department (HFD). The SFC and the HFD support the intent of H.B. 2113, which proposes to ban the use, sale, and possession of aerial luminaries, which are commonly known as sky lanterns, Hawaii lanterns, and flying luminaries.

We believe the uncontrolled releases of these devices pose a potential danger to life and property and recommend they be prohibited in the state. These devices are paper lanterns containing a small candle or other fuel source that heats air inside the lantern, thus causing the lantern to rise several hundred feet and remain airborne until the heat source diminishes, at which time the lantern descends. This uncontrolled, open-flame device can land on combustible vegetation, buildings, or power lines and interfere with aircraft flight patterns. Death or serious injury to livestock has been reported in many countries after the sky lantern remains were consumed. In Great Britain, numerous fires have been reported to buildings and crops. There is a ban of aerial luminaries in Georgia, Australia, and parts of Germany.

The SFC and the HFD urge your committee's support on the passage of H.B. 2113.

Should you have any questions, please contact SFC Administrator Socrates Bratakos at 723-7151 or [sbratakos@honolulu.gov](mailto:sbratakos@honolulu.gov).

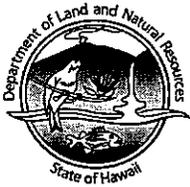
Sincerely,

A handwritten signature in black ink that reads "Kenneth G. Silva".

KENNETH G. SILVA  
Chair

KGS/LR:cn

NEIL ABERCROMBIE  
GOVERNOR OF HAWAII



**STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES**

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

**Testimony of  
WILLIAM J. AILA, JR.  
Chairperson**

**Before the House Committee on  
JUDICIARY**

**Thursday, February 23, 2012  
2:00 PM  
State Capitol, Conference Room 325**

**In consideration of  
HOUSE BILL 2113  
RELATING TO FIRE PROTECTION**

House Bill 2113 proposes to protect health and safety by prohibiting the ignition, possession, sale, or use of aerial luminaries, more commonly known as sky lanterns. The Department of Land and Natural Resources supports the intent of this measure and offers the following comments.

The uncontrolled release of the aerial luminary device poses a potential danger to life and property. Once released, these paper lanterns will eventually descend with the heat source (candle) still intact. This uncontrolled open flame device has the potential to ignite vegetation which in turn can result in an uncontrolled wildfire. The potential for ignition also exists for buildings as well as power lines. These aerial luminaries also have the potential to interfere with aircraft flight patterns.

WILLIAM J. AILA, JR.  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

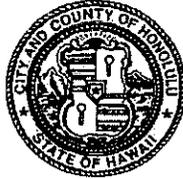
GUY H. KAULUKUKUI  
FIRST DEPUTY

WILLIAM M. TAM  
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
BUREAU OF CONVEYANCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
CONSERVATION AND COASTAL LANDS  
CONSERVATION AND RESOURCES ENFORCEMENT  
ENGINEERING  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

POLICE DEPARTMENT  
CITY AND COUNTY OF HONOLULU

801 SOUTH BERETANIA STREET · HONOLULU, HAWAII 96813  
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PETER B. CARLISLE  
MAYOR

LOUIS M. KEALOHA  
CHIEF

DAVE M. KAJIHIRO  
MARIE A. McCAULEY  
DEPUTY CHIEFS

OUR REFERENCE

February 23, 2012

The Honorable Gilbert S.C. Keith-Agaran, Chair  
and Members  
Committee on Judiciary  
House of Representatives  
State Capitol  
Honolulu, Hawaii 96813

Dear Chair Keith-Agaran and Members:

Subject: House Bill 2113, Relating to Fire Protection

I am Raymond Ancheta, Major of the Kapolei Station, District 8, Honolulu Police Department (HPD), City and County of Honolulu.

The HPD supports House Bill 2113, which bans the ignition, possession, selling, and use of aerial luminaries.

The HPD stands with the Honolulu Fire Department in banning this inherently dangerous form of fireworks. The concept of allowing an open flame to float to wherever the wind may blow presents a potential problem with brushfires along the Leeward Coast and other areas with dry vegetation.

The HPD requests that your committee support the passage of House Bill 2113.

Sincerely,

A handwritten signature in black ink, appearing to read "Raymond Ancheta", is written over a horizontal line.

RAYMOND ANCHETA, Major  
District 8

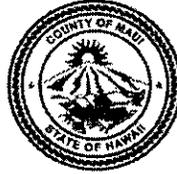
APPROVED BY:

A handwritten signature in black ink, appearing to read "Louis M. Kealoa", is written over a horizontal line.

LOUIS M. KEALOHA  
Chief of Police

*Serving and Protecting With Aloha*

ALAN M. ARAKAWA  
MAYOR



JEFFREY A. MURRAY  
CHIEF

ROBERT M. SHIMADA  
DEPUTY CHIEF

**COUNTY OF MAUI**  
DEPARTMENT OF FIRE AND PUBLIC SAFETY

200 DAIRY ROAD  
KAHULUI, MAUI, HAWAII 96732  
(808) 270-7561  
FAX (808) 270-7919  
EMAIL: fire.dept@mauicounty.gov

February 22, 2012

The Honorable Gilbert Keith-Agaran, Chair  
Committee on Judiciary  
House of Representatives  
State Capitol, Room 302  
Honolulu, Hawaii 96813

Dear Chair Keith-Agaran:

Subject: H.B. 2113 Relating to Fire Protection

I am Jeffrey A. Murray, Fire Chief of the County of Maui, Department of Fire & Public Safety (MFD) and a member of the State Fire Council (SFC). The MFD and the SFC support the intent of H.B. 2113, which proposes to ban the use, sale, and possession of aerial luminaries, which are commonly known as sky lanterns, Hawaii lanterns, and flying luminaries.

We believe the uncontrolled releases of these devices pose a potential danger to life and property and recommend they be prohibited in the state. These devices are paper lanterns containing a small candle or other fuel source that heats air inside the lantern, thus causing the lantern to rise several hundred feet and remain airborne until the heat source diminishes, at which time the lantern descends. This uncontrolled, open-flame device can land on combustible vegetation, buildings, or power lines and interfere with aircraft flight patterns. Death or serious injury to livestock has been reported in many countries after the sky lantern remains were consumed. In Great Britain, numerous fires have been reported to buildings and crops. There is a ban of aerial luminaries in Georgia, Australia, and parts of Germany.

The MFD and the SFC urge your committee's support on the passage of H.B. 2113.

Should you have any questions, please contact SFC Administrator Socrates Bratakos at 723-7151 or sbratakos@honolulu.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeffrey A. Murray", is written over a printed name and title.

JEFFREY A. MURRAY  
Fire Chief

**William P. Kenoi**  
Mayor



**Darren J. Rosario**  
Fire Chief

**Renwick J. Victorino**  
Deputy Fire Chief

**County of Hawai'i**  
**HAWAII FIRE DEPARTMENT**  
25 Aupuni Street • Suite 2501 • Hilo, Hawai'i 96720  
(808) 932-2900 • Fax (808) 932-2928

February 22, 2012

The Honorable Gilbert Keith-Agaran, Chair  
Committee on Judiciary  
House of Representatives  
State Capitol, Room 302  
Honolulu, Hawaii 96813

Dear Chair Keith-Agaran:

Subject: H.B. 2113 Relating to Fire Protection

I am Darren J. Rosario, Member of the State Fire Council (SFC) and Fire Chief of the Hawaii Fire Department (HFD) of the County of Hawaii. The SFC and the HFD support the intent of H.B. 2113, which proposes to ban the use, sale, and possession of aerial luminaries, which are commonly known as sky lanterns, Hawaii lanterns, and flying luminaries.

We believe the uncontrolled releases of these devices pose a potential danger to life and property and recommend they be prohibited in the state. These devices are paper lanterns containing a small candle or other fuel source that heats air inside the lantern, thus causing the lantern to rise several hundred feet and remain airborne until the heat source diminishes, at which time the lantern descends. This uncontrolled, open-flame device can land on combustible vegetation, buildings, or power lines and interfere with aircraft flight patterns. Death or serious injury to livestock has been reported in many countries after the sky lantern remains were consumed. In Great Britain, numerous fires have been reported to buildings and crops. There is a ban of aerial luminaries in Georgia, Australia, and parts of Germany.

The SFC and the HFD urge your committee's support on the passage of H.B. 2113.

Should you have any questions, please contact SFC Administrator Socrates Bratakos at 723-7151 or [sbratakos@honolulu.gov](mailto:sbratakos@honolulu.gov).

Sincerely,

**DARREN J. ROSARIO**  
Member



**Bernard P. Carvalho, Jr.**  
Mayor



**Robert F. Westerman**  
Fire Chief

**Gary K. Heu**  
Managing Director

**John T. Blalock**  
Deputy Fire Chief

**KAUA'I FIRE DEPARTMENT**  
**County of Kaua'i, State of Hawai'i**

3083 Akahi Street, Suite 101, Lihue, Hawai'i 96766  
TEL (808) 241-4980 FAX (808) 241-6508

February 21, 2012

The Honorable Gilbert Keith-Agaran, Chair  
Committee on Judiciary  
House of Representatives  
State Capitol, Room 302  
Honolulu, Hawaii 96813

Dear Chair Keith-Agaran:

**Subject: H.B. 2113 Relating to Fire Protection**

I am Robert F. Westerman, Fire Chief of the Kauai Fire Department (KFD) and a member of the State Fire Council (SFC). The KFD and the SFC support the intent of H.B. 2113, which proposes to ban the use, sale, and possession of aerial luminaries, which are commonly known as sky lanterns, Hawaii lanterns, and flying luminaries.

We believe the uncontrolled releases of these devices pose a potential danger to life and property and recommend they be prohibited in the state. These devices are paper lanterns containing a small candle or other fuel source that heats air inside the lantern, thus causing the lantern to rise several hundred feet and remain airborne until the heat source diminishes, at which time the lantern descends. This uncontrolled, open-flame device can land on combustible vegetation, buildings, or power lines and interfere with aircraft flight patterns. Death or serious injury to livestock has been reported in many countries after the sky lantern remains were consumed. In Great Britain, numerous fires have been reported to buildings and crops. There is a ban of aerial luminaries in Georgia, Australia, and parts of Germany.

The KFD and the SFC urge your committee's support on the passage of H.B. 2113.

Please call me at (808) 241-4980 should you have any questions regarding this matter.

Sincerely,

A handwritten signature in black ink that reads "Robert Westerman".

Robert Westerman  
Fire Chief, County of Kaua'i

RFW/eld

February 22, 2012

Gilbert S.C. Keith-Agaran, Chair  
House Committee on Judiciary  
State of Hawaii

Dear Representative Keith-Agaran,

I would like to take this opportunity to introduce myself, our Hawaii Fire Chiefs Association, and ask for your consideration and support of House Bill 2113 regarding the ban on the sale and use of "aerial luminaries".

My name is Darryl Oliveira and I am the recently retired (August 1, 2011) Fire Chief of the County of Hawaii and the current President of the Hawaii Fire Chiefs Association (HFCA). The HFCA is a professional association and a registered and incorporated 501(c)(3) non-profit organization. Our Executive Officers, Board of Directors, and general membership is comprised of executive or chief officers of the various County, State, Federal, and Private Industry fire protection agencies and organizations within our state. The HFCA is also an affiliate organization of the Western Fire Chiefs Association and the International Association of Fire Chiefs.

Our organization's mission is one of advocacy for the fire service both locally as well as at the regional and national level. In keeping with our mission, the HFCA would like to request your consideration and passage of House Bill 2113. There is sufficient evidence to support this measure as a means of reducing the hazard and risk for potential fires in every one of our island communities. In addition, the HFCA has been working with our two affiliate organizations on this particular matter as it has become an issue of concern in many other states and communities.

Therefore on behalf of the Hawaii Fire Chiefs Association I would like to ask for your support and passage of this measure as it will reduce the risk for potential fires and provide for the safety of our community and our first responders.

Sincerely,

Darryl Oliveira

## Hawaii Fire Department “Aerial Luminary” Fire Hazard and Risk Assessment Project

### Project Statement:

During the course of the 2011 New Year Holiday season the Hawaii Fire Department encountered the retail sales of a novelty device hereinafter referred to as “aerial luminaries”. These devices were being marketed and sold under two distinct product names; Hawaiian Lantern and Sky Lantern. These aerial luminaries were fundamentally small scale hot air balloons that were propelled by an ignitable fuel pad. Both products were comprised of a light weight paper canopy or balloon with an attached wire frame base that held a solid fuel pad. The fuel pad, when ignited produced sufficient quantities of heated air and vapors to fill the canopy or balloon and carry it aloft. The actual chemical composition of the fuel pad is unknown and currently being researched however it appears to be a liquid or wax impregnated paper or cardboard pad. (See figure 1.1)

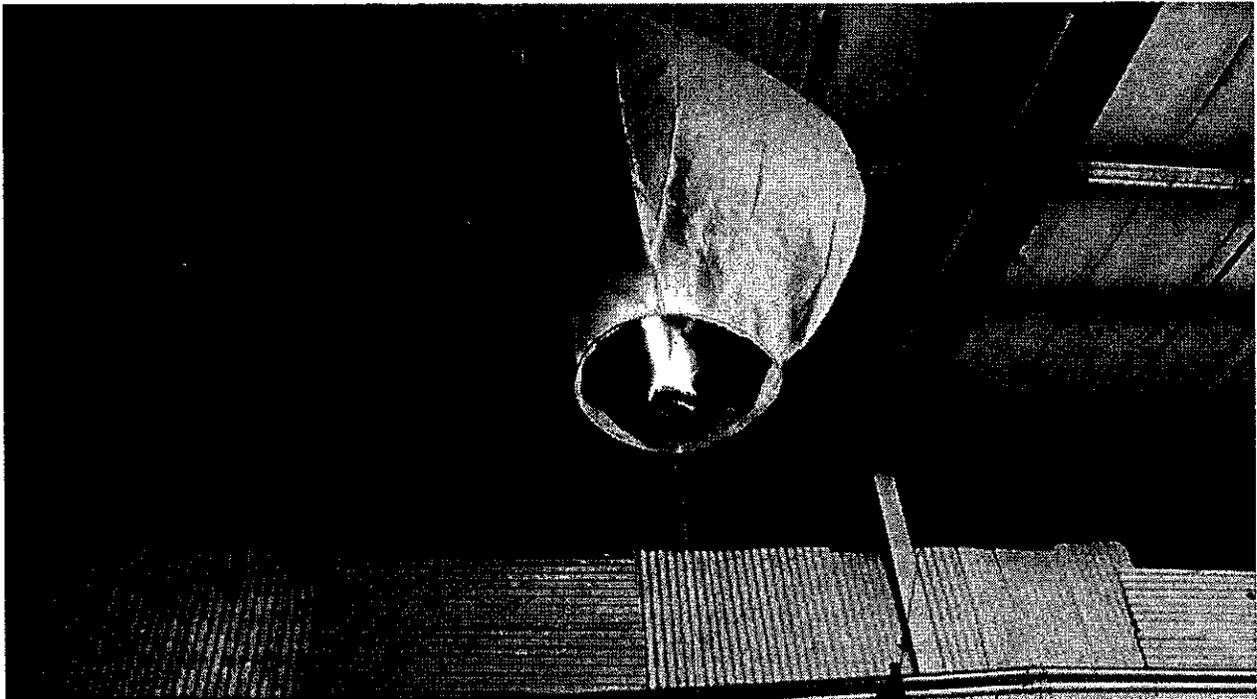


Figure 1.1

Given that these devices operated with an open flame and were designed to be released un-tethered and transported by ambient winds, the Hawaii Fire Department initiated a gross hazard risk assessment and subsequently took the position that the devices posed a significant fire safety hazard and should be prohibited from sale and use. In consultation with the County of Hawaii Managing Director and Deputy Corporation Counsel, the decision was made to purchase all remaining product inventory and through an aggressive media campaign request public compliance and refrain from use.

In an effort to further qualify the concerns for public safety, the following organizations and agencies were contacted for comment:

1. National Fire Protection Association
2. International Association of Fire Chiefs
3. Western Fire Chiefs Association
4. Federal Aviation Administration
5. Consumer Product Safety Commission

Each of the agencies or organizations contacted readily commented that they were unfamiliar with the product however based on the description of its use and function, all consistently expressed a concern for safety and agreed that the devices presented with among other risks, a significant fire hazard.

To responsibly validate the perceived safety concerns it was determined that a product test would be conducted utilizing the inventory that was in the possession of the fire department. This project is a representation of that product testing process and outcomes.

#### **Project Goal:**

Safely conduct "live fire" testing of both products under controlled (indoor) and typical ambient weather (outdoor) conditions to validate or dispute the concerns for fire safety.

#### **Project Objectives:**

1. Insure the safety of the public throughout the product testing process.
2. Conduct product testing under both controlled and ambient weather conditions. The tests would measure the following:
  - a. Duration of time from ignition to termination of flame production (cessation of flame production however continued smoldering activity observed).
  - b. Duration of time from ignition to complete extinguishment (all smoldering has stopped).
  - c. Duration of time device remains aloft or airborne.
  - d. Estimated average altitude attained by device.
  - e. Estimated average lateral travel or distance of travel of the device.

#### **Testing Process:**

1. A random sample of each product was identified and selected for testing.
2. The indoor or controlled testing was conducted in an industrial warehouse occupied by the Hawaii Fire Department with necessary fire protection and suppression capabilities on hand. The warehouse facility is a steel structure with an open floor area of approximately five thousand square feet. Access and ventilation was provided utilizing a single roll up door and it was further determined that the airflow through this opening would not significantly alter or affect the performance of the tests or the outcomes.
3. Outdoor testing was conducted in the outskirts of the Hilo proper area. The site was selected based on relative ease of access, open space, low vegetation fuel load, high fuel moisture content, low population density, safe distance from airport and air traffic routes, and representation of typical community weather and environment.
4. All product testing was photographed as well as videoed for historical record and accountability.
5. All products were ignited with a typical consumer lighter. No other accelerants or fuels were introduced.
6. All time measurements were conducted utilizing more than one time monitor and stop watch.
7. Altitude was estimated using physical references and lateral distance of travel calculated using portable Global Positioning System (GPS) units.

**Testing Outcomes (Indoor/controlled):**

Average duration of time from ignition to termination of flame production:

Hawaiian Lantern	4 minutes 53 seconds
Sky Lanterns	5 minutes 18 seconds

Average duration of time from ignition to complete extinguishment:

Hawaiian Lantern	10 minutes 30 seconds
Sky Lantern	10 minutes 16 seconds

Average duration of time device remained airborne:

Hawaiian Lantern	4 minutes 26 seconds
Sky Lantern	4 minutes 43 seconds

**Testing Outcomes (Outdoor/ambient weather):**

Average duration of time device remained airborne:

Hawaiian Lantern	4 minutes 37 seconds
Sky Lantern	4 minutes 45 seconds

Average estimated altitude attained:

Hawaiian Lantern	400 feet
Sky Lantern	500 feet

Average estimated distance traveled (lateral):

Hawaiian Lantern	1025 feet
Sky Lantern	1150 feet

**Other observations:**

1. Both products behaved in the same manner and responded to the changes in wind direction and speed accordingly. It was noted that the variation in wind speed or force did affect the rate of climb. Essentially the stronger the winds the slower the rate of climb as most of the movement and travel was lateral.
2. Both products were observed to descend with active burning continuing although the intensity of the burning and the observed flame lengths diminished significantly. Nonetheless both products when touching down continued to generate sufficient heat output to ignite vegetation or other combustible materials.
3. The altitude at which the devices reached was sufficient to affect local air traffic. As observed with one release, a passing small single engine aircraft approached the device and appeared to follow it for a brief period of time and at an altitude that was in compliance with FAA regulations for visual flight rules operations.

**Summary and conclusion:**

The aerial luminaries as tested produce sufficient heat output and perform in such a manner that it poses a risk and potential for a fire. The devices are basically uncontrolled and subject to the influence of ambient wind conditions and the operator or person releasing the device may have little to no control of its path of travel and ultimate landing or contact with possible ignitable materials. The products contain sufficient fuel to provide for a significant rate and distance of travel and if deployed as intended during night conditions pose a risk of setting down or landing undetected and continue to burn for

several minutes. Therefore based on the lack of controls, type of burn activity observed and measured, and the typical weather and climate, environmental factors such as geography, topography and natural fuels and fuel loading in Hawaii, the sale and use of this product should be restricted.

# Testimony before the House Committee on Judiciary

By Ken T. Morikami  
Manager, Safety and Security Department  
Hawaiian Electric Company, Inc.

February 23, 2012

House Bill 2113  
Relating to Fire Protection

Chair Gilbert S. C. Keith-Agaran, Vice Chair Karl Rhoads, and Members of the  
Committee:

My name is Ken Morikami and I am testifying on behalf of the Hawaiian Electric  
Company and its subsidiaries, Hawaii Electric Light Company and Maui Electric  
Company.

**Position:**

**We support HB2113** which proposes a total ban on aerial luminaries.

**Comments:**

Aerial luminaries pose a significant risk to our electric power systems. Many of our  
facilities are surrounded with vegetation, which if ignited, could lead to a catastrophic  
fire, causing widespread damage to homes, businesses and our facilities. This could  
result in power outages as well as impact the safety and security of home and business  
owners.

These devices could also contact and damage our power lines and equipment within  
our power plants and substations in areas all across the islands. These incidents will  
require emergency response from our crews and other first responders, who would be  
exposed to unnecessary safety and hazardous conditions.

Thank you for the opportunity to testify on this matter.