

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. Box 3378
HONOLULU, HAWAII 96801-3378

In reply, please refer to:
File:

COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION

H.B. 2656, RELATING TO AIR POLLUTION CONTROL

Testimony of Loretta J. Fuddy, A.C.S.W., M.P.H.
Director of Health

February 9, 2012
8:30 a.m.

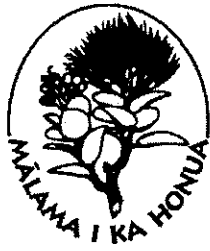
1 **Department's Position:** The Department of Health supports the intent of this bill to require all
2 crematoriums to have air permits.

3 **Fiscal Implications:** The fiscal implications to the Department of Health should be minimal since this
4 bill only affects three crematoriums. The bill will have a fiscal impact on the three affected crematoriums by
5 way of permit fees and the implementation of any new permit requirements such as recordkeeping,
6 reporting, and monitoring.

7 **Purpose and Justification:** This bill amends Chapter 342B, HRS to require all crematoriums to obtain
8 air permits, including crematoriums built before March 20, 1972, that are currently exempt from the
9 permit process. The permitting of all crematoriums will provide a more equitable regulatory playing
10 field and allow the Department to have better regulatory oversight over the pre-1972 crematoriums.
11 Requiring permits for the pre-1972 crematoriums will help ensure compliance with the air regulations
12 through recordkeeping, monitoring, and reporting. Based on our records, there are three pre-1972
13 crematoriums that would be affected by this bill.

14 Thank you for the opportunity to testify on this bill.

15



Sierra Club Hawai'i Chapter

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HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION

February 9, 2012, 8:30 A.M.
(*Testimony is 1 page long*)

TESTIMONY IN SUPPORT TO HB 2656

Aloha Chair Coffman and Members of the Committee:

The Sierra Club of Hawai'i supports House Bill HB 2656, which confirm that crematoriums have an obligation to obtain an air permit.

Several community members have complained about crematoriums in their neighborhood that bellow particulates into the air. This bill would ensure that these crematoriums obtain a clean air permit, follow best practices, and be obliged to self-report any violations of permit conditions.

The people of Hawai'i have a right to a clean environment.

Mahalo for the opportunity to testify.

kawakami1 - Marissa

From: mailinglist@capitol.hawaii.gov
Sent: Tuesday, February 07, 2012 12:26 AM
To: EEPtestimony
Cc: stnlshr250@gmail.com
Subject: Testimony for HB2656 on 2/9/2012 8:30:00 AM

Testimony for EEP 2/9/2012 8:30:00 AM HB2656

Conference room: 325
Testifier position: Support
Testifier will be present: Yes
Submitted by: Stanley Shiraki
Organization: Individual
E-mail: stnlshr250@gmail.com
Submitted on: 2/7/2012

Comments:

kawakami1 - Marissa

From: mailinglist@capitol.hawaii.gov
Sent: Tuesday, February 07, 2012 3:51 PM
To: EEPtestimony
Cc: dane.c.lee@gmail.com
Subject: Testimony for HB2656 on 2/9/2012 8:30:00 AM

Testimony for EEP 2/9/2012 8:30:00 AM HB2656

Conference room: 325
Testifier position: Support
Testifier will be present: No
Submitted by: Dane Lee
Organization: Individual
E-mail: dane.c.lee@gmail.com
Submitted on: 2/7/2012

Comments:

It is very disturbing when I am at home and begin to smell all the chemical odors from the crematorium.

I need to close all the windows in the house every time this occurs. I then have to re-breathe all those fumes that have already entered my home.

All this is very disrupting to me, especially when I am at home studying for exams.

kawakami1 - Marissa

From: mailinglist@capitol.hawaii.gov
Sent: Tuesday, February 07, 2012 5:59 PM
To: EEPtestimony
Cc: leeb@seattleu.edu
Subject: Testimony for HB2656 on 2/9/2012 8:30:00 AM

Testimony for EEP 2/9/2012 8:30:00 AM HB2656

Conference room: 325
Testifier position: Support
Testifier will be present: No
Submitted by: Brittany Lee
Organization: Individual
E-mail: leeb@seattleu.edu
Submitted on: 2/7/2012

Comments:
Crematorium emissions need to be controlled.

Fumes are very strong at times. I do not know if I can live in this area if this continues.

Our neighbors that have small children are very concerned.

I am concerned about the effects on my health.

kawakami1 - Marissa

From: mailinglist@capitol.hawaii.gov
Sent: Tuesday, February 07, 2012 8:38 PM
To: EEPtestimony
Cc: leeplace1@yahoo.com
Subject: Testimony for HB2656 on 2/9/2012 8:30:00 AM

Testimony for EEP 2/9/2012 8:30:00 AM HB2656

Conference room: 325
Testifier position: Support
Testifier will be present: Yes
Submitted by: Edmund Lee
Organization: Individual
E-mail: leeplace1@yahoo.com
Submitted on: 2/7/2012

Comments:

I am in support of HB2656 to require pre-1972 non-permitted crematories to acquire an Air Permit.

A permit will ensure that a crematorium's incinerator is used correctly to preserve the local air quality. The permit will have a detailed analysis of all equipment used and emissions being discharged. It will provide a baseline of information to ensure that this air pollution source will operate within the regulated parameters of air emission laws.

Incineration is a method of decomposing a product into particulate matter and gases, then dispersing these products into the air. Not all products of combustion will continually rise and dissipate itself into the upper atmosphere. All products of combustion that are heavier than air will eventually dissipate back to ground level. The particulate matter, heavy metals, and fumes will be inhaled or ingested, and creates a sanitary/environmental problem. These emission products present a health and environmental concern.

Reason 1: DOH has no operational data for a source that has no permit

- Other than information gained from investigations after an official complaint, there is no data of value as compared to a stationary source that has an air permit.
- Nothing is available from an unpermitted air pollution source. They are not required to provide any information, and thus may be out of compliance with air regulations.
- 40 years has passed, we need to be start being progressive and not status quo.

Reason 2: Permit establishes an approved baseline for equipment used.

- A permitted air pollution source must disclose equipment specifications, maximum design capacity, fuel type, fuel usage, production capacity, production rates, manufacturer's literature.
- A permitted source must identify and describe in detail all air pollution control equipment and compliance monitoring devices.
- Unpermitted sources are not required to disclose any of the above information. Their equipment may be so outdated that no manufacturer's data is available. This is a loophole that allows the operator to continually modify and make changes to their equipment, which can thereby effect unauthorized changes to emission outputs.

Reason 3: Emission Data and Data Base

- Permit holder provides emission data that identifies their air pollutants and the emission rate of those pollutants. We currently do not know what emissions and emission rates being discharged from an unpermitted source.
- Emission data will help determine if a source is in compliance with current air standards before having approval to operate.
- Emission data provides a data base. For good reason, permit holders cannot modify their equipment or incineration process if a new air pollutant will be created, or there will be an increased quantity of an air pollutant. Since there is no data base from an unpermitted source, this source is fairly free to do modifications or process changes that could result in a greater negative impact.
- Emission data base (inventory of emissions) is extremely important. Equipment and operating systems of an air pollution source can deteriorate from years of usage. This original data can be used to determine if the air pollution source is still in compliance with air standards.
- Air standards set by the EPA or State can change and become more stringent. Emission data base will help determine how these regulatory changes will affect the air pollution source.

Reason 4: Compliance Plan

- Permit holder is required to have a plan to show how they will be in compliance to all applicable requirements. Compliance plan will ensure a consistent operation of the source for meeting air standards.
- Periodic reporting requirements on emissions ensure continuous compliance.
- There are no periodic reporting requirements for a source that does not have a permit, and no approved monitoring system to ensure continuous compliance.

Reason 5: Special Conditions can be applied

- Permit allows for special conditions to be added to a permit to ensure that incineration will be in compliance and for public health. An example of a special condition is a rule stating that plastics cannot be burned with a cremation.
- Temperature requirements for the burners can be stated.
- Types of automated monitoring systems to be installed.
- In this section the stricter opacity ruling of 20% opacity can be applied as a requirement. Note that other states are down to 10%
- Require odor restrictions
- Require start-up restrictions to prevent excessively high release of toxic emissions
- Allow only low chlorinated (such as 5%) plastic body bags to be burned to limit emission of dioxins and furans.
- Establish reasonable hours for burning

Reason 6: Permit has Content

Permit may incorporate the following:

- Establish emission limitations and standards
- Permit term of 5 years and renewable
- Requirements for installation of devices for measurement and analysis of emissions
- Requirement for source emission test to determine compliance
- Monitoring and recordkeeping requirements
- Other records such as strip chart recordings, calibration and maintenance records
- Requirement for retention of records
- Provision for annual reporting of hazardous air pollutants

Reason 7: Permit can supplement enforcement for compliance

- Examples of conditions imposed on a permitted source when not in compliance

1. "The Department of Health reserves the right to impose additional operational controls and/or restrictions if a site evaluation indicates that additional controls and/or restrictions are necessary."

2. "Although not required at this time, the Department of Health may at any time require the permittee to install and operate a continuous emission monitor or to conduct source performance test or ambient air quality monitoring."

- The above example was obtained from an actual permit issued to Borthwick Mortuary
- An unpermitted source will not have such supplemental enforcement conditions. (You will be lucky to even get a verbal promise from them.)

Reason 1: Opacity Restrictions

- Residents and users of an area that are within the range of the exhaust plume are impacted by incinerator emissions. Current allowable opacity for a non-permitted pre March 1972 crematory is up to 40%. All current post March 1972 crematories have an opacity limitation of up to 20%. A reduction to 20% opacity limitations will reduce the amount of particulate matter and fumes being emitted. A reduction of opacity leads to a healthier and cleaner environment.
- A darker opacity means that the incineration process is not fully efficient. The smokes are products of combustion which are not being completely burned by heat and fire.
- Residents in permitted areas are exposed to lower opacity and cleaner air, why should others in un-permitted areas not be given the same right to cleaner air and sanitation.

Reason 6: Trend is for increased demand for cremations

Land is scarce and costs of burials are high. There is a larger population of aging adults as compared to the past. The demographics of an aging population, scarcity of land, burial costs will all subsequently create an increase in demand for cremations.

Increased demand means increased operational time which creates more emissions. How can we allow an unpermitted source, for which we do not have any operational and emission data, to continue with increasing outflow of emissions. An air permit should be required to ensure that a source meets air emission standards.

kawakami1 - Marissa

From: mailinglist@capitol.hawaii.gov
Sent: Tuesday, February 07, 2012 8:50 PM
To: EEPtestimony
Cc: cmlee@hawaii.edu
Subject: Testimony for HB2656 on 2/9/2012 8:30:00 AM

Testimony for EEP 2/9/2012 8:30:00 AM HB2656

Conference room: 325
Testifier position: Support
Testifier will be present: No
Submitted by: Chandelle Lee
Organization: Individual
E-mail: cmlee@hawaii.edu
Submitted on: 2/7/2012

Comments:

kawakami1 - Marissa

From: mailinglist@capitol.hawaii.gov
Sent: Tuesday, February 07, 2012 8:55 PM
To: EEPtestimony
Cc: hafakasi07@aol.com
Subject: Testimony for HB2656 on 2/9/2012 8:30:00 AM

Testimony for EEP 2/9/2012 8:30:00 AM HB2656

Conference room: 325
Testifier position: Support
Testifier will be present: No
Submitted by: Blaize Soakai
Organization: Individual
E-mail: hafakasi07@aol.com
Submitted on: 2/7/2012

Comments:

kawakami1 - Marissa

From: mailinglist@capitol.hawaii.gov
Sent: Tuesday, February 07, 2012 9:04 PM
To: EEPtestimony
Cc: ceml@hawaii.edu
Subject: Testimony for HB2656 on 2/9/2012 8:30:00 AM

Testimony for EEP 2/9/2012 8:30:00 AM HB2656

Conference room: 325
Testifier position: Support
Testifier will be present: No
Submitted by: Chelsea Lee
Organization: Individual
E-mail: ceml@hawaii.edu
Submitted on: 2/7/2012

Comments:

kawakami1 - Marissa

From: mailinglist@capitol.hawaii.gov
Sent: Tuesday, February 07, 2012 9:10 PM
To: EEPtestimony
Cc: kai_kane_808@yahoo.com
Subject: Testimony for HB2656 on 2/9/2012 8:30:00 AM

Testimony for EEP 2/9/2012 8:30:00 AM HB2656

Conference room: 325
Testifier position: Support
Testifier will be present: No
Submitted by: Kila Sumalpong
Organization: Individual
E-mail: kai_kane_808@yahoo.com
Submitted on: 2/7/2012

Comments:

kawakami1 - Marissa

From: mailinglist@capitol.hawaii.gov
Sent: Tuesday, February 07, 2012 9:17 PM
To: EEPtestimony
Cc: leed065@hotmail.com
Subject: Testimony for HB2656 on 2/9/2012 8:30:00 AM

Testimony for EEP 2/9/2012 8:30:00 AM HB2656

Conference room: 325
Testifier position: Support
Testifier will be present: No
Submitted by: Dennis Lee
Organization: Individual
E-mail: leed065@hotmail.com
Submitted on: 2/7/2012

Comments:

kawakami1 - Marissa

From: mailinglist@capitol.hawaii.gov
Sent: Tuesday, February 07, 2012 9:26 PM
To: EEPtestimony
Cc: cmlee@hawaii.edu
Subject: Testimony for HB2656 on 2/9/2012 8:30:00 AM

Testimony for EEP 2/9/2012 8:30:00 AM HB2656

Conference room: 325
Testifier position: Support
Testifier will be present: No
Submitted by: Colleen Lee
Organization: Individual
E-mail: cmlee@hawaii.edu
Submitted on: 2/7/2012

Comments:

kawakami1 - Marissa

From: mailinglist@capitol.hawaii.gov
Sent: Tuesday, February 07, 2012 9:43 PM
To: EEPtestimony
Cc: leeplace1@yahoo.com
Subject: Testimony for HB2656 on 2/9/2012 8:30:00 AM

Testimony for EEP 2/9/2012 8:30:00 AM HB2656

Conference room: 325
Testifier position: Support
Testifier will be present: Yes
Submitted by: Karen Lee
Organization: Individual
E-mail: leeplace1@yahoo.com
Submitted on: 2/7/2012

Comments:

Testimony for HB2656 Pertaining to Crematoriums

I am advocating on behalf of my family, the neighborhood, and especially the children and elderly who may not be able to represent themselves. SB2119 and HB2656 require all crematoriums operating within the State to be subject to the air pollution control permitting requirements. Currently, crematoriums constructed prior to March 1972 are exempt from the air pollution control permit requirements.

My husband and I have experienced the fallout of pollution from an unpermitted crematorium in our neighborhood for over 20 years although our first complaint to the Department of Health (DOH) was made 14 years ago (1998). We have undergone numerous bouts of strong fumes and odors. We're at the point that my husband is having respiratory problems and difficulty breathing when emissions permeate our home. Calls have been made to the DOH for their assistance in abating the problem, but we have been told on many occasions that they have their "hands tied" or are "unable to do anything" because the crematorium is grandfathered and does not require a permit. Requiring a permit for crematoriums to operate is not a novel idea in the state of Hawaii as all other crematoriums built after 1972 are required to have an air permit. In fact, our neighborhood crematorium is the only crematorium operating without a permit on Oahu. There is only one other crematorium operating without a permit, located on the Big Island. The crematorium in our area is unique in that it is situated in the thick of a densely populated residential mixed-use neighborhood and according to the DOH, handles 50 percent of all the cremations on Oahu. I have seen thick smoke engulf Waolani Judd School, where the children, who are more vulnerable to pollutants, are exposed...and they have been exposed on a regular basis.

Are crematorium emissions safe? Crematoriums without filters release harmful emissions such as nitrogen oxides, carbon monoxide, hydrogen chloride, sulphur dioxide, dioxins, furans, formaldehyde, mercury, other heavy metals such as cadmium and lead, as well as tiny portions of dust called particulates. The safe levels of chronic exposure to heavy metals such as lead and mercury do not seem to have been established. The Centers for Disease Control (CDC), which sets the national policy regarding childhood lead levels challenged the long-held notion that there is a threshold below which lead is not toxic. Based on new information as well as new understanding of old data, the committee's report asserts that there is no safe

lead level for children -- that many of the consequences of early lead exposure are irreversible. The adverse effects extend beyond the neurodevelopmental realm into cardiovascular, immunological, and endocrine effects. In addition, according to Dr. Lars Friberg, Former Chief Adviser to the World Health Organization on Mercury safety, "There is no safe level of mercury, and no one has actually shown that there is a safe level". No amount of exposure to mercury vapor can be considered harmless. "Mercury affects the body in multiple ways, the most significant being the fact that it disrupts the natural processes that the body must complete in order to detoxify - creating a vicious cycle where more and more toxins are trapped in the body. Mercury is particularly difficult to remove from the body and will tend to attach itself to the cells instead of leaving the body. Mercury often attaches to the brain. That is why the symptoms of Mercury poisoning resemble so closely neurological disorders such as Alzheimer's, Dementia, and many auto-immune disorders. Mercury vapors can remain for months or years on furniture, carpet, floors and walls. To put the danger of mercury in perspective, it takes just 1 gram of mercury in a lake of 27 surface acres to trigger elevated toxic levels in fish, according to the U.S. Geological Survey. Mercury emissions from cremations in the US are estimated to be about 3 tons per year. Mercury is particularly dangerous to fetuses and children. Exposure can lead to irreversible neurological damage which results in memory loss, attention deficit and other learning disabilities, according to the EPA.

Our neighborhood crematorium established itself in 1906 and has 3 incinerators ranging from 79 to 106 years old. The incinerators do not have any type of filter system to address the problem with its toxic emissions. Nor do their incinerators have monitoring systems as do the more current incinerators. In fact, our crematorium is still using diesel fuel, unlike all the other crematoriums on Oahu, which utilize natural gas only. Diesel exhaust contains more than 40 toxic air contaminants and is a major source of fine-particle pollution. Diesel exhaust includes many known or suspected cancer-causing substances, such as benzene, arsenic, formaldehyde and nickel. It also contains other harmful pollutants, including nitrogen oxides (a component of urban smog). There have been numerous instances when my family could smell the burning fuel. Exposure to diesel exhaust occurs whenever a person breathes air that contains these substances. The toxic gases and small particles of diesel exhaust (particulate matter) are drawn deep into the lungs, where they can contribute to a range of health problems. Diesel exhaust is a major source of fine-particle pollution and the elderly and children are especially susceptible to the effects of these fine particles. Long term exposure to diesel exhaust poses the highest cancer risk of any toxic air contaminant. According to the EPA, immediate effects of exposure can create inflammation in the lungs that may cause chronic respiratory symptoms and increase the frequency or intensity of asthma attacks. Other immediate effects are listed as irritation of eyes, nose, throat, coughing, headaches, light-headedness and nausea. It should be noted that several residents who signed the petition for SB2119 and HB2656 expressed respiratory difficulties and headaches.

The DOH claims that they have conducted some on site inspections of our neighborhood crematorium. However, they reported that it is difficult for them to conduct continuous monitoring of the opacity of emissions themselves. That is, they would have to visually witness a violation of opacity of the emissions since the crematorium does not have a schedule of cremations or opacity monitoring system. With a permit, the DOH may require crematoriums to install a continuous monitoring system.

With the passage of bills SB2119 and HB2656, The DOH will be able to better monitor the emissions of all crematoriums and set limitations and standards to have adequate control over air pollutants. According to the EPA, states generally require that crematories hold permits, meet specified design requirements to limit emissions, and conform to certain operating requirements. It is up to the states to enforce air permit regulation. In reviewing Borthwick Mortuary's permit of 2004, similar requirements could be made of all crematoriums such as:

- a) Only human remains and the casket or cloth containing the remains are allowed to be processed in the crematory units. Fiberglass or plastic caskets are not allowed. This could significantly reduce or eliminate the smoke and toxins emitted from burning coffins and plastic body bags.
- b) The crematory unit burners shall be fired only on synthetic natural gas.
- c) The permittee is not authorized to burn medical or hazardous wastes. The DOH may at any time require a higher set point temperature for the secondary chamber if an inspection indicates poor or insufficient control.
- d) The DOH may require the permittee to install and operate a continuous emission monitor or to conduct source performance tests or ambient air quality monitoring.
- e) The DOH reserves the right to impose additional operational controls and/or restrictions if a site evaluation indicates that additional controls and/or restrictions are necessary.
- f) The permittee shall follow a regular maintenance schedule to ensure proper operation of the crematory units.
- g) The amount of particulate matter is limited.

Other limitations to be considered in a permit for crematoriums are as follows:

Crematoriums, especially those in residential and heavily populated areas, could be required to utilize equipment with built in filters and alarm monitoring systems. Or crematoriums may opt to use a safe alternative such as incinerators utilizing water and potassium hydroxide.

Crematoriums may be required to have dental fillings removed from bodies prior to cremation or may present that option to families.

The amount of smoke could be limited. In the case of the Borthwick permit, they shall not exhibit visible emissions of 20 percent opacity or greater for any six minute average period. (Currently, a non-permitted crematorium, such as OC, is allowed visible emissions of 40 percent opacity under HAR 11-6-.1-32). A crematorium that is in the thick of a residential district should have more stringent, rather than less stringent standards for opacity. New York City permits emissions of only 10 percent opacity.

With a permit, monitoring and record keeping requirements are also stated. Using Borthwick's 2004 permit, the following are required and serve as an example of how the permit can be utilized:

The opacity alarm monitoring system shall be maintained and kept in operational condition at all times. Also, the permittee shall maintain records for each cremation such as type of casket, weight of remains, material enclosing the remains temperature of the secondary chamber, cremation time, date and time when monitor warning indicator triggered and corrective action taken, etc.

With the requirement of a permit for crematoriums, the DOH will be able to better monitor emissions of and set limitations and standards to have adequate control over air pollutants. This will benefit not only neighborhoods in close proximity to crematoriums, but the state as a whole as pollutants can infiltrate our air, ground, and water. The passing of SB2119 and HB2656, requiring all crematoriums to apply for a permit, is a step in the right direction.

kawakami1 - Marissa

From: mailinglist@capitol.hawaii.gov
Sent: Wednesday, February 08, 2012 8:57 AM
To: EEPtestimony
Cc: isokanes002@hawaii.rr.com
Subject: Testimony for HB2656 on 2/9/2012 8:30:00 AM

Testimony for EEP 2/9/2012 8:30:00 AM HB2656

Conference room: 325
Testifier position: Support
Testifier will be present: No
Submitted by: gladys isokane
Organization: Individual
E-mail: isokanes002@hawaii.rr.com
Submitted on: 2/8/2012

Comments:

The Nuuanu crematory transmit a bad odor and we can smell the air of burning bodies. Of late we have gotten ill by the smell resulting in headache, vertigo and nausea. It is time that the Legislatures close down this old crematory place.

kawakami1 - Marissa

From: mailinglist@capitol.hawaii.gov
Sent: Wednesday, February 08, 2012 3:30 PM
To: EEPtestimony
Cc: mendezj@hawaii.edu
Subject: Testimony for HB2656 on 2/9/2012 8:30:00 AM

Testimony for EEP 2/9/2012 8:30:00 AM HB2656

Conference room: 325
Testifier position: Support
Testifier will be present: Yes
Submitted by: Javier Mendez-Alvarez
Organization: Individual
E-mail: mendezj@hawaii.edu
Submitted on: 2/8/2012

Comments: