

139

PETITION

TO: Hawaii State Senate

SUBJECT: Air Pollution Control

RESOLUTION: Crematoriums in the State of Hawaii that were in operation prior to March 20, 1972 are currently exempt from air pollution control permitting requirements. In the best interest of public health and for a cleaner environment, we petition to revise Hawaii Revised Statute 342B to include these exempt crematoriums to obtain an air pollution control permit.

PROPOSED AMENDMENT TO HRS 342B: "All crematoriums of human remains operating within the State shall be subject to the permit requirements of this chapter; provided that owners or operators of crematoriums operating within the State without a permit which were constructed prior to March 20, 1972 shall submit permit applications to the department by December 31, 2012. The department may adopt rules pursuant to Chapter 91 to effectuate the purposes of this section or to impose permit conditions to minimize ambient air quality impacts caused by crematoriums."

NAME	ADDRESS	EMAIL/PHONE
Raymond Ng	1424 Bachelet St	
RICHARD KAWASAKI	145 N. JUDD ST	
JENNIE KAWASAKI	145 N. JUDD ST.	
Kathy Tambe	315 N. Judd St.	
HARRY ISOKANE	2039 LEE PLACE	
Jeffrey Okozaki	2029 A Lee Place	
STANLEY SHINSATO	2011 LILHA ST.	
Carl Yamamoto	2020 Bachelet St	
PACITA ORDINADO	311 BAHOS ST.	
BEVERLYN KAWAKI	320 RATES ST	
Glenn S. Yoshida	2007 Hanalima Pl	glenn.yoshida@gmail.com
Clinton Okudogawa	2017 Hanalima Pl.	
Elizabeth Kior	2022 Hanalima Pl	
Ken Kawano	2008 Hanalima Pl.	

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Kimberly Leigh Wellschlag	406 Judd St	

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DIDILYTT O'NEILL	ii	
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LISA ITO	2026 BACHELOT ST	

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NAME	ADDRESS	EMAIL/PHONE
Albert Tanaka	2036 Lee Pl.	
Chad Tanaka	2036 Lee Pl.	
Scott Tanaka	"	
Debbie Tanaka	2036 Lee Pl.	C# 221-6239
Barbara Nakamoto	Judd St	
Melody	Lee Place	
Aye Spangane	2039 Lee Pl	
Gladys Lukan	"	
Lawrence Nakata	Judd Street	
Russell Yuen	250-A N. JUDD ST.	NISHIBEL 002@hawaii.rr.com
Kawika Haregawa	250 N. Judd St	
Cheryl Chu	Bushy St	
John Chow	"	
Bobby Bautista	2929 Ala Ilima	bautista_bobby@hotmail.com

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NAME	ADDRESS	EMAIL/PHONE
Dennis Lu	429 Judd St.	
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Cynthia Lum	UCC - Judd	
Susan Jung	UCC - Judd St.	
Susan Jung	UCC - Judd St	
John T Matague	1752 Kuahaka St	455-7996
Wendy Min-Tan	4055 Halekua St Hon 96821	313 4700

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July S.K. Y	4510 SALT LAKE BLVD.	778-3888
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Eva Pang	55 S. Kukui St #3111	evapang@live.com 554-1517
Carol Ho Akimoto	98-906 Keamika St Hiea	487-2770
Michael Nakada	214-A Kulioukou St 96821	368-6319
Ron Jon	1441 VICTORIA ST #201	375-4500
Blair	4510 salt lake	779-3888
Chuck w. Tsui	1304 Pali Hwy Hon HI 96813	738-3861

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<u>Wayne Okazaki</u>	<u>2029 Lee Pl</u>	
<u>Aimee Meteko</u>	<u>2029 Lee Pl</u>	
<u>MASAAKI NAKAMURA</u>	<u>2044 LEE PL.</u>	
<u>Lily NAKAMURA</u>	<u>2044 LEE PL</u>	
<u>Eloise Fukuji</u>	<u>321 N. Judd St.</u>	
<u>HUBERT HOKIDA</u>	<u>321-A N. JUDD ST.</u>	
<u>Irene Berman</u>	<u>321 B N. Judd St</u>	
<u>Susan Sawyer</u>	<u>320 N. Judd St.</u>	
<u>Jeanette Ikeda</u>	<u>426 Kekau Place</u>	
<u>Florence Ikeda</u>	<u>426 Kekau Place</u>	
<u>Michael Shimamura</u>	<u>427 kekau pl</u>	
<u>Karon Lee</u>	<u>425 N. Judd St.</u>	

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NAME	ADDRESS	EMAIL/PHONE
LEON JONES	440 A N. Judd St.	Honolulu HI
CHONG CHAN JONES	SAME	
SPENCER C. YEE	467 Judd St	Hon. HI
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Lisa Chao		
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NAME	ADDRESS	EMAIL/PHONE
Vincent Sugii	441 N. Judd St.	537-3129
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Colin Lum	2137 Bachelot St.	
Malla Rasmussen	2137 Bachelot St.	
Christine Dung	2137-B Bachelot St.	595-3281
Larry Jarutonen	2140 Bachelot St.	595-2518
Mr. & Mrs. Robert Wong	2121 B. Bachelot	595-7458
Mr. & Mrs. Gene Meike	457A Halapia Pl.	598457
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Janet Ferguson-Bry	P.O. Box 22572	96823
William Trevor Bell	465 Halapia Pl.	760 553 5425
Mrs. & Mrs. Lawrence Lo	452 Halapia Pl.	
M/M Kame Naga	417 EHAKO PL	Honolulu 96817
M/M Randall Wong	425 Ehaoko Pl	Honolulu, 96817

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DAVID AIU	2012 HUAKE PI	
Marilyn Lanemeru	122-A BATES ST	Hon. HI. 96817
Jesse Bennett	1936 Bachelot St.	
FISH ARABIA	1940 LILIHUA ST	
Gynthera Nakai	1927 Bachelot St.	Hon 96817
EDWARD FERRIS	1917 BACHELOT ST	HON. 96817
MIMI Glen Ho	2118 Bachelot St	Hon HI 96817

COMMENT
Proposed Amendments to 342B

Name	Comment
Mrs. Masa Nakamura	Fumes are very strong and difficult to tolerate.
E.F. Eloise Fukuji	I am concerned about my health from smoke and fumes
Irene Berman	Environmentally unlawful - smoke + fumes permeates everything - Please put a stop to it.
Susan M. Sawyer	I am allergic to diesel exhaust fumes - Bad headaches.
Michael Shimamura	I don't like the smell of dead bodies concerned for my health.
Erin Young	I suffer from allergies and am concerned that the fumes exacerbate them.
D. Nakamura	Fumes are strong + very noticeable.
Jordan Nakamura	After weeding out human carcinogens from cosmetics, it's frustrating to not be able to do anything about pollution raining down on my neighborhood, cancelling any personal choices I make.
Colleen Uejo	Fumes are strong and smells are bothersome. Dad has asthma and bronchitis and his cough increases when we smell the fumes. We need to close our windows and turn on the AC.
J.	

COMMENT
Proposed Amendments to 342B

Name Comment

Colleen Lee - developed asthma & bronchitis.

Row CASSEL VISITING 425 - THROUGH MY CAR WAS

~~BE~~ OVER HEATING WITH A HOT SMELL OF BURNING PLASTIC

- Brittany Lee - I want to be able to leave the windows of my house open, and not live in a confined box when, or "in case" the crematorium starts to burn... I hold the front of my shirt or a thick towel to my nose and mouth to filter the air. When it's really bad, our family escapes the neighborhood in our car, which takes away time and money for gas. I just want to feel comfortable and safe at home, and also not have to worry about health problems.

11. STAN SHINAZA - I have experienced very STRONG BURNING SMELL of electrical burning

ROCITA ORDINADO - This is a very unhealthy situation we frequently have strong burning smell inside and outside of our home most often in the evening about 6 to 6:30 pm.

1. Susana Isokano - I have vertigo and headaches from the fumes. The fumes are very strong, have difficult time breathing, coughing, eyes get watery. We need to close all our windows. Also creates runny nose constantly

8: Gladys Solome - strong fumes give me headache. Fumes are very strong

Ben Mada - Fumes are sometimes overwhelming - Smells like burning electrical wires.

COMMENT
Proposed Amendments to 342B

Name

Comment

DEBORAH LEE

CLEAN AIR IS EVERYONE'S GOAL. SOMETIMES
THE SMELL FROM THE NEARBY CREMATOIRIA
IS A PROBLEM WHICH HOPEFULLY CAN BE
CORRECTED.

STANLEY S. SHIRAKI

EVEN THOUGH THEY ARE GRANDFATHERED IN
WHERE HEALTH IS A CONCERN, IT SHOULD
BE REEXAMINED.

COMMENT
Proposed Amendments to 342B

Name

Comment

CL Colin Lum I have seen the smoke and do not want to be exposed to it.

Jenny Tarcant smoke is noxious and this is a class A residential area. Sanitation for the residents in the area is utmost importance. We need to get progressive and reconsider the status of the grandfather status of operating without a permit.

PSM Paul Miyake we get exposed to emission on FOND wind days

JL JANE HO Environment is very important and we should have clean air. I have seen the smoke from the crematorium

<u>Summary of Complaints</u>			
Date	Complaint #	Complaint	Investigation results
			Inspector
8/27/1998	343	strong smells	inattentive operator John Flores
9/8/1998	346	odor going on/off for weeks	inattentive operator JF
10/9/1998	392	strong odor yesterday and today	was not burning on days being complained Ronda Randolph
10/15/1998	410	experiencing odor at time of call also on 10-13-98 at 5pm	burning confirmed at those times. Operator plans overhaul of burners/after burners and installation of wet scrubber. JF
10/28/1998	417	odor 10-27 430pm to 7pm	Operator plans overhaul of burners/after burners and installation of wet scrubber JF
11/19/1998	447	complainant impacted by nuisance odors on 11-18	possibly from 300lb body JF
4/14/2000	153-2c	incomplete burn	odor Cal Miyahara
5/4/2000	182-2c	330pm Waolani Judd students sent indoors due to odors	600lb person CM
9/21/2000	382-2c	smoke impact and fumes	odor CM
11/30/2000	481-2p	515pm odor by Waolani Judd parent concerned for her child	incinerating University of Hawaii cadavers CM
7/3/2001	285-2p	diesel exhaust and sulphur odors	operator claims nothing unusual or no malfunctions operator claim system okay, but possible 2 minute malfunction of air blower. CM
10/25/2001	500-2p	sulphur and plastic odor	CM
6/15/2001	259-2c	strong odors causing difficulty breathing	Possibly University of Hawaii cadavers CM
5/30/2003	0-03-228	burning plastic and fuel smell 730pm	400lb person CM
7/15/2004	OA-04-225	diesel fuel and burning plastic odor at 800pm	nothing detected during investigation, referred to Hazard Evaluation and Emergency Response branch. CM
10/30/2006	OA-06-355	complainant impacted by visible emission	Investigators saw smoke of varying opacity 40% to 70%. Operator also claims he had visible emissions CM
7/9/2007	OA-07-195F1	plastic and other harsh fumes impacted by smoke and fumes on 3 occasion that day. With Video	observed demo burn and no smoke or odors visible on that day Operator gone for day. Superintendant claims had some smoke that day David Wong
7/14/2007	OA-07-215		DW

8/14/2007	OA-07-260	white smoke, black smoke, plastic fumes 8-9, 8-10, 8-13	large body cremated on 8-10, inspector obtained cremation log	DW
8/24/2007	OA-07-275	unusual odor on 8-23 630 to 650pm.	obtained cremation log. Superintendent claim everything operating normally	DW
10/19/2007	OA-07-338	complaint inspection	Operator claim system normal. Cremation log obtained	DW
12/12/2007	OA-07-376	complaint inspection	Operator unavailable. Cremation log obtained	DW
12/28/2007	OA-07-379	complaint inspection	New operator in training, burning approx 350lb body	DW
7/1/2008	OA-08-160	visible emissions	Burning large wooden casket with body	Amanda Crowe
7/24/2008	OA-08-184	strong plastic fumes	Heavy plastic body bag burned with body	Jere Yoshimoto
9/8/2008	OA-08-236	Huge smoke cloud, w/ chemical plastic fuel smell	Large 500lb body	JY
9/29/2008	OA-08-258	Huge white cloud, w/ chemical plastic fuel smell	Director claims he will investigate. Cremation log obtained	JY
6/26/2009	OA-09-104	Heavy smoke w/ strong chemical smell	New operator, casket and embalming products, Cremation log obtained	JY
7/31/2009	OA-09-136	Fumes	Large body cremated >300lbs	JY
9/28/2009	OA09-177	Fuel odors	Equipment overload	JY
3/9/2010	OA-10-44	Smoke and plastic fumes	Large body >300lb	JY
4/16/2010	OA-10-84	Toxic fumes	Operators claim nothing abnormal was done	JY
9/7/2010	OA-10-203	Heavy smoke w/ photo & video sent submitted	Large bodies >300lb	JY
9/21/2010	OA-10-217	Large heavy smoke plume w/ photo and video submitted	Large body >450lb	JY
11/3/2010	OA-10-255	Large black smoke plume w/ photo & video submitted	Large body >300lb, and operator error	JY
12/1/2010	OA-10-274	Black smoke 15 minutes	Large body >300lb, possible equipment malfunction	JY
11/16/2010	OA-10-267	Strong plastic fumes	Body from Molokai and wrapped in large amount of plastic	DW
2/12/2011	OA-11-035	White smoke, intermittent 25 minutes. Video submitted	Oil build-up in chamber	DW
4/11/2011	OA-11-67	Strong exhaust fumes causing difficulty breathing	Burning casket	JY

4/29/2011	OA-11-85	Heavy smoke and plastic fumes	Badly decomposed body encased w/ 2 plastic bags	JY
6/1/2012	OA-11-104	chemical/plastic/diesel fumes light smoke	operators not aware of any problems	DW
8/25/2011	OA-11-150	Heavy smoke and plastic fumes	CAB inspector confirmed times of burning, new operators	JY
9/30/2011	OA-11-175	Black smoke w/ video submitted	Operational error, training two new operators	JY
11/3/2011	OA-11-210	strong fumes, causing ill reaction	confirm burning at times, but cause unknown	JY
11/21/2011	OA-11-226	smoke	Operators cannot recall incident	JY
11/29/2011	OA-11-228	Strong fumes	confirm burning at times, but cause unknown	JY
12/6/2011	OA-11-234	strong electrical burning smell	confirm burning at times, but cause unknown	JY
12/29/2011	OA-11-246	strong electrical burning smell w/ smoke	confirm burning at times	JY
1/31/2012	OA-12	strong plastic fumes	Heavy plastic body bag burned with body	JY

This is a list of chemical components that have been found in diesel exhaust. (from Wikipedia)

Contaminant	Note
acetaldehyde	IARC Group 2B carcinogens
acrolein	IARC Group 3 carcinogens
aniline	IARC Group 3 carcinogens
antimony compounds	Toxicity similar to arsenic poisoning
arsenic	IARC Group 1 Carcinogens, endocrine disruptor
benzene	IARC Group 1 Carcinogens
beryllium compounds	IARC Group 1 Carcinogens
biphenyl	It has mild toxicity.
bis(2-ethylhexyl)phthalate	endocrine disruptor
1,3-butadiene	IARC Group 2A carcinogens
cadmium	IARC Group 1 Carcinogens, endocrine disruptor
chlorine	
chlorobenzene	It has "low to moderate" toxicity.
chromium compounds	IARC Group 3 carcinogens
cobalt compounds	
cresol isomers	
cyanide compounds	
dibutyl phthalate	endocrine disruptor
1,8-dinitropyrene	Carcinogen
dioxins and dibenzofurans	
ethyl benzene	
formaldehyde	IARC Group 1 Carcinogens
inorganic lead	endocrine disruptor
manganese compounds	
mercury compounds	IARC Group 3 carcinogens
methanol	It may cause blindness.
methyl ethyl ketone	It may cause birth defect.
naphthalene	IARC Group 2B carcinogens
nickel	IARC Group 2B carcinogens
3-Nitrobenzanthrone	One of the strongest carcinogens known
4-nitrobiphenyl	
phenol	endocrine disruptor
phosphorus	
polycyclic organic matter, including polycyclic aromatic hydrocarbons (PAHs)	
propionaldehyde	
selenium compounds	IARC Group 3 carcinogens
styrene	IARC Group 2B carcinogens
toluene	IARC Group 3 carcinogens
xylene isomers and mixtures: o-xylenes, m-xylenes, p-xylenes	IARC Group 3 carcinogens



Air and Radiation

You are here: [EPA Home](#) » [Air and Radiation](#) » National Ambient Air Quality Standards (NAAQS)

<http://www.epa.gov/air/criteria.html>
Last updated on Tuesday, November 08, 2011

National Ambient Air Quality Standards (NAAQS)

The [Clean Air Act](#), which was last amended in 1990, requires EPA to set [National Ambient Air Quality Standards](#) (40 CFR part 50) for pollutants considered harmful to public health and the environment. The Clean Air Act identifies two types of national ambient air quality standards. **Primary standards** provide public health protection, including protecting the health of "sensitive" populations such as asthmatics, children, and the elderly. **Secondary standards** provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

EPA has set National Ambient Air Quality Standards for six principal pollutants, which are called "criteria" pollutants. They are listed below. Units of measure for the standards are parts per million (ppm) by volume, parts per billion (ppb) by volume, and micrograms per cubic meter of air ($\mu\text{g}/\text{m}^3$).

Pollutant [final rule cite]		Primary/ Secondary	Averaging Time	Level	Form
Carbon Monoxide [76 FR 54294, Aug 31, 2011]		primary	8-hour	9 ppm	Not to be exceeded more than once per year
			1-hour	35 ppm	
Lead [73 FR 66964, Nov 12, 2008]		primary and secondary	Rolling 3 month average	0.15 $\mu\text{g}/\text{m}^3$ (1)	Not to be exceeded
Nitrogen Dioxide [75 FR 6474, Feb 9, 2010] [61 FR 52852, Oct 8, 1996]		primary	1-hour	100 ppb	98th percentile, averaged over 3 years
		primary and secondary	Annual	53 ppb (2)	Annual Mean
Ozone [73 FR 16436, Mar 27, 2008]		primary and secondary	8-hour	0.075 ppm (3)	Annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years
Particle Pollution [71 FR 61144, Oct 17, 2006]	PM _{2.5}	primary and secondary	Annual	15 $\mu\text{g}/\text{m}^3$	annual mean, averaged over 3 years
			24-hour	35 $\mu\text{g}/\text{m}^3$	98th percentile, averaged over 3 years
	PM ₁₀	primary and secondary	24-hour	150 $\mu\text{g}/\text{m}^3$	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide [75 FR 35520, Jun 22, 2010] [38 FR 25678, Sept 14, 1973]		primary	1-hour	75 ppb (4)	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		secondary	3-hour	0.5 ppm	Not to be exceeded more than once per year

as of October 2011

(1) Final rule signed October 15, 2008. The 1978 lead standard (1.5 $\mu\text{g}/\text{m}^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

(2) The official level of the annual NO₂ standard is 0.053 ppm, equal to 53 ppb, which is shown here for the purpose of clearer comparison to the 1-hour standard.

(3) Final rule signed March 12, 2008. The 1997 ozone standard (0.08 ppm, annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years) and related implementation rules remain in place. In 1997, EPA revoked the 1-hour ozone standard (0.12 ppm, not to be exceeded more than once per year) in all areas, although some areas have continued obligations under that standard ("anti-backsliding"). The 1-hour ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is less than or equal to 1.



November 1, 2010



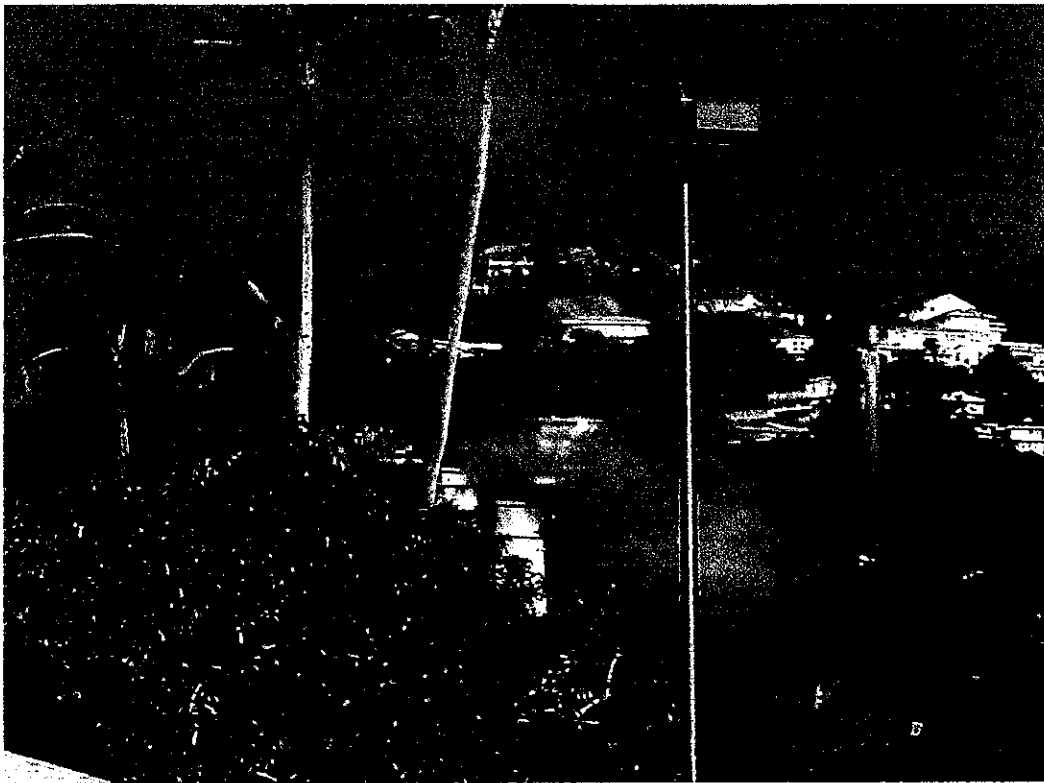
August 23, 2011



September 21, 2010
Smoke so heavy, you cannot see exhaust stack



September 21, 2011
By coincidence, 1 year apart from date above



December 12, 2007



October 2, 2008

Southwick Air Permit

Noncovered Source Permit No. 0422-01-N
Review of Application for Renewal No. 0422-03

Company Name: Borthwick Mortuary

Equipment Location: 1330 Maunakea Street *617,995mE, 2,357,649mN (NAD-21)*
UTM coordinates: 618,280 m E; 2,357,440 m N (approximate)
Horizontal datum: NAD-83

Responsible Official: Scott Sells **Contact:** Paul Hoffman
Area Vice President Location Manager
522-5200 522-5200

Company's Mailing Address: 1330 Maunakea Street
Honolulu, Hawaii 96817

Proposed Project: Borthwick Mortuary submitted an application to renew noncovered source permit no. 0422-01-N. The filing fee of \$100 was submitted with the application. No modifications are proposed to the permitted facility. The facility has two crematory units used to cremate deceased human remains. Each unit is rated at 125 pounds per hour. Only human remains and the casket or cloth containing the remains are allowed to be processed in the crematory units. Both units fire synthetic natural gas in their primary and secondary burners. The SIC code for this facility is 7261.

Each crematory unit has a recommended maximum incineration rate of 125 lbs/hr. Dale Walter, a representative of the manufacturer (Industrial Equipment & Engineering Company), stated during the initial review of the two crematory units that the units do not have recommended maximum single charge capacities. According to Mr. Walter, as the size of the remains increase the operating conditions change accordingly as recommended by the manufacturer.

The set point temperature of the secondary chamber is required by the air permit to be set at a minimum temperature of 1600° F. The secondary chamber set point temperature serves two purposes: it is (1) the temperature the secondary chamber must reach before the remains can be ignited; and (2) is the temperature at which the secondary chamber will operate throughout incineration. The ignition burner ignites the remains. To prevent ignition of the remains before the set point temperature is achieved in the secondary chamber, the remains can be loaded in one of two ways: (1) the remains can be loaded into the cremation chamber before the secondary burner is ignited, in this case, the secondary chamber must reach 1600° F before the ignition burner can be started; or (2) the remains can be loaded into the cremation chamber after the secondary chamber reaches 1600° F.

Proper functioning of both the temperature indicator/controller and the burners ensures optimal combustion conditions exist in the secondary chamber.

As described, combustion of the remains begins in the primary chamber. Gases then travel to the secondary chamber where combustion is continued and residual gases are consumed. When the cremation process is complete, the unit is allowed to cool for twenty to thirty minutes prior to removing the remains.

Attached are a number of questions posed to a representative of Industrial Equipment and Engineering Company. Marco Salgado, an engineer with Industrial Equipment and Engineering Company, responded to the following questions on September 7, 2004. The website of the manufacturer is <http://www.ieeco.com/index.asp> and the phone number is (800) 327-2831.

1. What is the safe maximum cremation rate?

It is generally 100 lbs/hr, but an experienced operator can achieve higher rates, up to 150 lbs/hr.

2. What defines the cremation period over which the cremation rate is calculated? For a 125 lbs/hr cremation rate, when does the clock start and when does the clock stop?

The unit has a preheat cycle and a cool down cycle, neither of which is included in the cremation rate. The end of the preheat cycle is when the primary burner is ignited. The cool down period begins when all burners shut off (this occurs when the master timer has expired). If required by the state, primary burner is automatically ignited, meaning the primary burner ignites once a specified minimum temperature in the secondary chamber is achieved.

3. Is it called the primary burner or main burner?

Either, it is usually called the 'primary' burner.

4. If the set point temperature for the secondary chamber is 1600 degrees F, what is the lowest temperature the secondary chamber would drop to?

The temperature should not drop much below the required minimum temperature. The manufacturer usually sets it 50 degrees above the minimum required temperature.

Opening the door would cool the chamber, but not too much.

5. Can the set point temperature be set in the field? Can the operator or someone else change the set point temperature?

Only IE technicians can set it in the field because there is a lockout code.

Apparently, with instruction from the manufacturer, the operator can change the set point temperature as determined by a discussion with Paul Hoffman on 10/1/04.

6. When a DOH inspector performs a site inspection, what can he do to check that the set point temperature is set to the required minimum temperature?

The only way is to run a load and the temperature indicator will tell you what the temperature is. After the 30 minute pre-heat, the secondary chamber should be around the required temperature. The only way to actually see the temperature is to go in to the program. The operator cannot see the setting because it is in the program.

7. What purpose does the primary burner serve?

The primary purpose of the primary burner is to maintain the cremation burn.

8. Is the alarm audio or visual, or both?

The alarm is a buzzer (audio) and a red light (visual).

9. Verify that the opacity alarm monitoring system is triggered at 20%.

The trigger could range from 10 to 20% opacity.

10. If the primary burner breaks down how does the operator know the unit should not be operated? What does the operator see when the primary burner is broken?

The red reset light turns on. The operator will then press the button to restart the start sequence. If the light does not go off, something is wrong.

11. If the secondary burner breaks down how does the operator know the unit should not be operated? What does the operator see when the secondary burner is broken?

The secondary burner also has a reset light. Another indication is that the temperature would drop.

12. If the thermocouple is malfunctioning, how does the operator know the unit should not be operated? What does the operator see when the thermocouple is malfunctioning?

The temperature controller would read an extremely high, weird number or would say TK-.

13. Does the unit have a recommended maximum single charge capacity?

Not really. Any cremation greater than 300 pounds, and the operator should contact the manufacturer for instructions.

A site visit was performed on September 23, 2004 with Robert Tam and Cathy Lopez of the Clean Air Branch and Paul Hoffman of Borthwick Mortuary. Paul Hoffman performed a cremation during the visit:

1. The remains were loaded into the cremation chamber before our arrival.
2. The secondary burner ignited.
3. At a secondary chamber temperature of approximately 580° F the primary burner is ignited.
4. The temperature observed during the cremation was 1475°-1500° F in the secondary chamber.

No visible emissions were apparent during the cremation. The Department observed approximately 1.5 hours of the cremation beginning with pre-heat of the secondary chamber. Observed operations indicated ignition of the remains was earlier than is allowed by the permit and that the secondary chamber, during incineration, had a temperature below 1500° F.

Paul Hoffman contacted the manufacturer and learned that the start-up procedure needed to be modified to ensure ignition of the remains did not occur until after the secondary chamber reached 1600° F. Following the September 23, 2004 visit, Paul Hoffman informed me that the remains would be loaded into the cremation chamber after the secondary chamber is pre-heated to a temperature of 1600° F. In addition, the set point temperature was set to a minimum of 1600° F and a minimum temperature of 1600° F would be maintained during incineration.

A second site visit was performed on October 7, 2004 by Cathy Lopez with Paul Hoffman present. Only one incinerator was operated. The remains were loaded after the temperature of the secondary chamber reached 1600° F. It was also observed that the temperature remained above 1600° F during incineration.

Equipment Description:

Equipment - Two 125 lbs/hr Cremation Units

Unit No.	Equipment Description	Fuel Used
1	125 lbs/hr Human Crematory Industrial Equipment and Engineering Company Model IE43-PPII maximum heat input capacity of the burners: <ul style="list-style-type: none"> • 1.5 MMBtu/hr at primary • 1.5 MMBtu/hr at secondary factory set heat input capacity of the burners: <ul style="list-style-type: none"> • 0.6 MMBtu/hr at primary • 1.2 MMBtu/hr at secondary 	Synthetic Natural Gas 1,471 scf/hr SNG 1,471 scf/hr SNG 588 scf/hr SNG 1,177 scf/hr SNG
2	Crematory unit identical to unit no. 1	same

The fuel rate is calculated by dividing the heat input capacity of the burners by the gross heating value of natural gas (on average 1.02×10^3 MMBtu/scf).

Air Pollution Control: Each incinerator is equipped with a secondary chamber to destroy particulates and VOCs. The set point temperature of the secondary chamber is required to be set at a minimum 1600° F. Ignition of the remains cannot occur until the secondary chamber reaches a minimum of 1600° F.

Applicable Requirements:

Applicable Hawaii Administrative Rules (HAR):

Chapter 11-59, Ambient Air Quality Standards

Chapter 11-60.1

Subchapter 1, General Requirements

Subchapter 2, General Prohibitions

11-60.1-31 Applicability

11-60.1-32 Visible Emissions

11-60.1-35 Incineration

Subchapter 4, Noncovered Sources

Subchapter 6, Fees for Covered Sources, Noncovered Sources, and Agricultural Burning

11-60.1-111 Definitions

11-60.1-117 General Fee Provisions for Noncovered Sources

11-60.1-118 Application Fees for Noncovered Sources

11-60.1-119 Annual Fees for Noncovered Sources

PSD Applicability: PSD *does not apply* since the facility is not a major source. Emissions from the source are far less than the 250 ton per year trigger level for PSD (non-listed sources).

NSPS, MACT, and NESHAPS applicability: Cremation activities are not regulated by 40 CFR part 60 Standards of Performance for New Stationary Sources, 40 CFR part 61 National Emissions Standards for Hazardous Air Pollutants, or 40 CFR part 63 National Emission Standards for Hazardous Air Pollutants for Source Categories. The following *do not apply* to this facility: NSPS, MACT, and NESHAPS.

BACT Applicability: A Best Available Control Technology (BACT) analysis is required for new or modified sources if the net increase in pollutant emissions exceeds significant levels as defined in HAR §11-60.1-1. Borthwick Mortuary is an existing source with no proposed modifications. A **BACT analysis is not required for this review.**

CAM applicability: The facility *is not subject to Compliance Assurance Monitoring* since it is not a major source.

Applicability of Part 51, Subpart A, Emission Inventory Reporting Requirements - Consolidated Emissions Reporting Rule (CERR):

40 CFR Part 51, Subpart A - Emission Inventory Reporting Requirements, determines the applicability of compliance emissions reporting (CER) based on the emissions of each air pollutant from the facility that emits at the CER triggering levels as shown in the table below.

Minimum Point Source Reporting Thresholds by Pollutant

Pollutant	Annual Cycle type A sources (tpy)	Three-year cycle type B sources (tpy)	Emissions from two incinerators (tpy)
SO _x	≥ 2500	≥ 100	2
VOC	≥ 250	≥ 100	2
NO _x	≥ 2500	≥ 100	2
CO	≥ 2500	≥ 1000	6
Pb		≥ 5	3.98e-02
PM ₁₀	≥ 250	≥ 100	4
PM _{2.5}	≥ 250	≥ 100	4
Ammonia	≥ 250	≥ 100	na

The facility is not subject to the CER rule.

In house annual emission reporting is not required for this source. Emissions of each pollutant are far less than the in house annual emission reporting trigger levels.

Synthetic minor status: A synthetic minor source is a facility that is potentially major (as defined in HAR §11-60.1-1), but is made non-major through federally enforceable permit conditions.

This facility is not a synthetic minor based on potential emissions being less than major levels when the crematory units are operated at their maximum capacity for 8,760 hours per year.

Insignificant Activities/Exemption: The facility did not identify any insignificant activities and is not requesting any exemptions.

Alternate Operating Scenarios: The applicant did not propose any alternate operating scenarios.

Project Emissions:

Criteria Pollutant Emissions - Two Human Cremation Units

Pollutant	Emission Factor (lb/ton)	Incineration Rate for One Incinerator (tons/hr)	Emissions from One Unit (lb/hr)	Emissions from one unit (g/sec)	Emissions from One Unit at 8,760 hrs/yr (tons/yr)	Emissions from Two Units at 8,760 hrs/yr (tons/yr)
PM	7	0.0625	0.44	n/a	2	4
PM ₁₀	7	0.0625	0.44	0.055	2	4
SO ₂	2.5	0.0625	0.16	0.020	1	2
NO _x	3	0.0625	0.19	0.024	1	2
CO	10	0.0625	0.63	0.079	3	6
VOC	3	0.0625	0.19	n/a	1	2

Emissions are based on operation of the incinerators at their maximum capacities of 125 lbs/hr each. The AP-42 does not contain emission factors for multiple chamber, excess air incinerators used for the incineration of pathological waste. The above criteria pollutant emissions are based on AP-42 Table 2.1-12 Refuse Combustors Other Than Municipal Waste, Industrial/Commercial Multiple Chamber (10/96).

A 1994 stack test was performed on an identical crematory unit. The stack test provides factors for PM (0.096 lb/hr per unit) and CO (0.008 lb/hr per unit). The AP-42 factors were used in calculating potential emissions because they are higher, thereby adding conservatism to the evaluation. Generally, actual stack performance test data should be more representative of the equipment performance.

HAP Emissions - Two Human Cremation Units

pollutant	incineration rate (tons/hr)	emission factor (lb/ton)	emissions from one unit (lb/hr)	emissions from one unit 8,760 hrs/yr (tpy)	emissions from two units 8,760 hrs/yr (tpy)
Lead	0.0625	7.28e-02	4.55e-03	1.99e-02	3.98e-02
HCl	0.0625	3.35e+01	—	—	—
PCBs	0.0625	4.65e-05	2.91e-06	1.27e-05	2.54e-05
Antimony	0.0625	1.28e-02	8.00e-04	3.50e-03	7.00e-03
Arsenic	0.0625	2.42e-04	1.51e-05	6.62e-05	1.32e-04
Beryllium	0.0625	6.25e-06	3.91e-07	1.71e-06	3.42e-06
Cadmium	0.0625	5.48e-03	3.43e-04	1.50e-03	3.00e-03
Chromium	0.0625	7.75e-04	4.84e-05	2.12e-04	4.24e-04
Manganese	0.0625	5.67e-04	3.54e-05	1.55e-04	3.10e-04
Mercury	0.0625	1.07e-01	6.69e-03	2.93e-02	5.86e-02
Nickel	0.0625	5.90e-04	3.69e-05	1.62e-04	3.24e-04
Hydrogen Fluoride	0.0625	1.49e-01	9.31e-03	4.08e-02	8.16e-02
Total CDD/CDF	0.0625	9.28e-05	5.80e-06	2.54e-05	5.08e-05
Total					1.91e-01

Emission rates for hazardous air pollutants (HAP) are from AP-42 Chapter 2.3 Medical Waste Incineration (July 1993) since no emission factors are available for cremation units. Borthwick Mortuary incinerates only deceased human remains. The HAP Emissions table is based on the incineration of medical waste which contains a substantial amount of plastics (PVC); therefore, potential emissions of chlorine, hydrogen chloride (HCl), chlorinated dibenzofurans (CDF), and chlorinated dibenzo-P-dioxins (CDD) from Borthwick Mortuary will be significantly less than shown above.

AP-42 HAP emission factors for Medical Waste Incineration are, primarily, the only emission factors available to estimate HAP emissions from human crematories. The emission factors from the AP-42 (medical waste) for HAPs are extremely conservative and not necessarily representative of actual emissions from human crematories. For example, maximum potential emissions of hydrogen chloride from a human cremation unit is far below the significant level of 10 tons per year due to the limited type of charge that will be permitted (only deceased human remains) which is why a ton per year emission rate for hydrogen chloride is not calculated in the HAP Emissions table.

The sum of hazardous air pollutant emissions is less than one ton.

HAR 11-60.1-35 (Incineration) states that no person shall cause or permit the emissions of particulate matter to exceed 0.20 pounds per 100 pounds of refuse charged from any incinerator. Based on the manufacturer provided stack test data from 1994, the emission rate for a single crematory unit is 0.0769 pounds of PM per 100 pounds charged.

Air Quality Assessment: This facility is an existing source with no proposed modifications. Ambient air quality impact analyses are usually not performed for existing sources with no proposed modifications. An ambient air quality impact analysis using the EPA SCREEN3 model was completed in the **June 9, 1998** review prior to construction/installation of the two crematory units. The constructed stack height is lower than the stack height used in the June 9, 1998 modeling analysis. For this reason, an ambient air quality impact analysis is performed for this review. The modeling program used for the current review is the EPA guideline model ISCST3.

Background Air Quality Data

The background air quality data is from 2003. The concentrations are from the Honolulu monitoring station for SO₂, PM₁₀, and CO and the Kapolei station for NO_x.

Terrain and Receptor Placement

The US Geological Survey digitized elevation model (DEM) file for Honolulu was used to generate terrain elevations in the model. The DEM file (0105.dem), has a resolution of 30 meters and a horizontal datum of NAD-27.

Receptors are spaced at 30 meter intervals in a 1,000 x 1,000 meter grid centered on the stack.

Meteorological Data

Meteorological data files LHON90.BIN and LHON91.BIN with surface meteorological data collected from Honolulu in 1990 and 1991, and upper air data from Lihue were used in the modeling analysis.

Building Input Data

The crematory building is included in the Building Profile Input Program (BPIP) analysis. The analysis determines if a structure will impact stack emissions through downwash caused by the structure. Potential downwash effects exist when a stack is located within 5 times the lesser of the structures height or projected width.

Stack Parameters and Emission Rates Input into the Model

stack	emission rate				stack parameter			
	SO ₂ (g/s)	NO _x (g/s)	CO (g/s)	PM ₁₀ (g/s)	height (m)	temp (K)	vel (m/s)	diam (m)
cremator 1	0.020	0.024	0.079	0.055	7.0	900	5.0	0.5
cremator 2	0.020	0.024	0.079	0.055	7.0	900	5.0	0.5

Ambient Air Quality Impacts from the Human Cremation Units

pollutant	averaging period	model impact ($\mu\text{g}/\text{m}^3$ per g/sec)	background concentration ($\mu\text{g}/\text{m}^3$)	total impact ($\mu\text{g}/\text{m}^3$)	ambient air quality standards ($\mu\text{g}/\text{m}^3$)	percentage of standard (%)
SO ₂	3-Hour	48.45	67	116	1,300	9
	24-Hour	20.83	17	38	365	10
	Annual	6.87	1	8	80	10
NO _x	Annual	8.24	9	17	70	24
CO	1-Hour	224.73	2,850	3,075	10,000	31
	8-hour	125.77	1,539	1,665	5,000	33
PM ₁₀	24-Hour	57.27	32	89	150	59
	Annual	18.88	15	34	50	68

The ambient air quality standards shown above are the most stringent of the state or federal standards.

The analysis is based on continuous operation of the two cremation units (8,760 hours per year). The analysis demonstrates the cremation units are operating in compliance with the ambient air quality standards. The ISCST3 input file for the modeling analysis is attached.

Significant Permit Conditions:

1. Condition: The crematory units shall only be charged with deceased human remains, which includes the casket or the cloth used to cover the human remains. The permittee is not authorized to burn fiberglass or plastic caskets.

Purpose: The design of the incinerator dictates the type of waste incinerated. Incineration of unsuitable materials results in unwanted emissions and possible damage to the cremation unit.

2. Condition: The maximum cremation rate shall not exceed 125 pounds per hour for each crematory unit.

Purpose: A representative of the manufacturer has stated that experienced operators can achieve 150 lbs/hr. The calculations for the initial review and this review are based on a cremation rate of 125 lbs/hr for each unit.

3. Condition: The set point of the temperature indicator/controller for the secondary chamber of each crematory unit shall be set and maintained at a minimum of 1600° F. Ignition of the primary burner shall not occur until the secondary chamber has attained a minimum temperature of 1600° F in the preheat cycle. The Department of Health may at any time require a higher set point temperature for the secondary chamber if an inspection indicates poor or insufficient control.

Purpose: The temperature allows for complete combustion and also ensures proper combustion from the start of cremation.

4. **Condition:** The crematory unit shall not be used unless the temperature indicator/controller and thermocouple for the secondary chamber are functioning properly. The thermocouple measuring the temperature of the secondary chamber shall be replaced as recommended by the manufacturer or at any other time as necessary to ensure proper operation.

Purpose: To ensure proper operation of the cremation units.

5. **Condition:** The crematory unit shall not be used unless both the primary and secondary burners are functioning properly.

Purpose: To ensure that optimal conditions in the secondary chamber exist to minimize emissions from the stack.

Conclusion: The applicant is renewing the permit for the two 125 pounds per hour human cremation units. An ambient air quality analysis was performed for this review since the constructed stack height is less than that used in the last analysis. The analysis indicates the proposed facility operates in compliance with the State and National Ambient Air Quality Standards.

Emission calculations and the ambient air quality impact analysis are based on the maximum design capacity of the crematory units and year-round operation. Review of the facility is conservative since actual operations are not expected to be near the continuous operations as assumed with overall emissions amounting to much less than shown in the analysis. Issuance of a renewal of the Noncovered Source Permit is recommended based on the review of the information provided by the applicant and subject to the conditions of the permit.

**ATTACHMENT II: SPECIAL CONDITIONS
NONCOVERED SOURCE PERMIT NO. 0422-01-N**

Issuance Date: November 19, 2004

Expiration Date: November 18, 2009

In addition to the Standard Conditions of the Noncovered Source Permit, the following Special Conditions shall apply to the permitted facility:

Section A. Equipment Description

1. This permit encompasses the two (2) 125 lbs/hr Industrial Equipment & Engineering Company Human Crematory Units, model IE43-PP11.
2. An identification tag or name plate shall be displayed on the equipment listed above to show model no., serial no., and manufacturer. The identification tag or name plate shall be permanently attached to the equipment in a conspicuous location.

Section B. Emission and Operational Limitations

1. The crematory unit burners shall be fired only on Synthetic Natural Gas.
2. The crematory units shall only be charged with deceased human remains, which includes the casket or the cloth used to cover the human remains. The permittee is not authorized to burn fiberglass or plastic caskets.
3. The permittee is not authorized to burn medical or hazardous waste. All medical or hazardous wastes shall be removed and disposed of properly. For the purposes of this permit, 'medical waste' shall be defined as follows:
 - a. Any waste generated in the diagnosis, treatment, or immunization of human beings or animals, in research pertaining thereto, or in the production or testing of biologicals. The definition of 'medical waste' does not include human corpses, remains, and anatomical parts that are intended for interment or cremation.
4. The maximum cremation rate shall not exceed 125 pounds per hour for each crematory unit.
5. The set point of the temperature indicator/controller for the secondary chamber of each crematory unit shall be set and maintained at a minimum of 1600° F. Ignition of the primary burner shall not occur until the secondary chamber has attained a minimum temperature of 1600° F in the preheat cycle. The Department of Health may at any time require a higher set point temperature for the secondary chamber if an inspection indicates poor or insufficient control.

6. The crematory unit shall not be used unless the temperature indicator/controller and thermocouple for the secondary chamber are functioning properly. The thermocouple measuring the temperature of the secondary chamber shall be replaced as recommended by the manufacturer or at any other time as necessary to ensure proper operation.
7. The crematory unit shall not be used unless both the primary and secondary burners are functioning properly.
8. Particulate emissions from the crematory units shall not exceed 0.20 pounds per 100 pounds of material charged.
9. For any six (6) minute averaging period, the crematory units shall not exhibit visible emissions of twenty (20) percent opacity or greater, except as follows: during start-up, shutdown, or equipment breakdown, the crematory units may exhibit visible emissions greater than twenty (20), but not exceeding sixty (60) percent opacity for a period aggregating not more than six (6) minutes in any sixty (60) minute period.
10. Only properly trained personnel shall operate the crematory units. A copy of the operator's manual shall be available in the vicinity of the crematory units.
11. The crematory units shall be properly maintained and kept in good operating condition at all times. The permittee shall follow a regular maintenance schedule to ensure proper operation of the crematory units, as recommended by the manufacturer.
12. 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.
13. 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 tests or ambient air quality monitoring.

Section C. Monitoring and Recordkeeping Requirements

All records, including supporting information, shall be maintained in a permanent form suitable for inspection, retained for a minimum of three (3) years, and made available to the Department of Health or their representative upon request.

1. The opacity alarm monitoring system equipped with each crematory unit shall be maintained and kept in operational condition at all times the crematory unit is in operation. The opacity alarm monitoring system for each crematory unit includes an audible buzzer and warning indicator light. Calibration of the opacity monitoring system and cleaning of the opacity lens shall be performed for each crematory unit, as recommended by the manufacturer or at any other time as necessary to ensure proper operation.

2. The permittee shall maintain the following records:
 - a. For each cremation, record:
 - i. Type of shroud or casket enclosing the remains;
 - ii. Total weight of the remains (including the casket or container used to hold the remains), in pounds;
 - iii. The date and time of the start of cremation (when the primary burner is ignited);
 - iv. Temperature of the secondary chamber at initial ignition of the primary burner (°F);
 - v. The date and time of the completion of cremation (when the burners shut off);
 - vi. Length of cremation time (recorded in total hours and minutes **or** total minutes);
 - vii. Calculated cremation rate in lbs/hr:
cremation rate in lbs/hr = total weight of the remains (in lbs) ÷ length of cremation time (in hours)
 - 1) If recording the length of cremation time in total hours and minutes, the length of cremation time (in hours) = (hours) + (minutes ÷ 60); or
 - 2) If recording the length of cremation time in total minutes, the length of cremation time (in hours) = minutes ÷ 60
 - viii. Name of operator.
 - b. Fuel purchase receipts, documenting the fuel type, the dates and amount (scf) of fuel received at the site for the crematory units shall be maintained.
 - c. The date and time of all events where the audible buzzer/warning indicator light is triggered, the findings, and the corrective action taken.
 - d. The date and time the temperature indicator/controller and/or thermocouple for the secondary chamber was found to be non-operational and when the temperature indicator/controller and/or thermocouple was repaired or replaced.
 - e. The date and time the burner for the primary and/or secondary chamber was found to be non-operational and when the burner was repaired or replaced.

- f. Equipment inspection, maintenance, and repair work performed on the crematory units. At a minimum, a log shall be maintained to include the date of the inspection/work, name and title of personnel performing inspection/work, and a description of the findings and any work performed on the equipment covered by this permit. This includes work performed on each crematory unit, including work performed on the temperature indicator/controller, thermocouple, burners, or the pollution monitoring system, which consists of the audible buzzer and warning indicator light.

Section D. Notification and Reporting Requirements

1. Notification and reporting pertaining to the following events shall be done in accordance with Attachment 1, Standard Condition Nos. 16 and 23, respectively:
 - a. *Emissions of air pollutants in violation of HAR, Chapter 11-60.1 or this permit; and*
 - b. *Permanent discontinuance of construction, modification, relocation, or operation of the facility covered by this permit.*
2. The permittee shall submit **semiannually** the following report to the Department of Health. The report shall be submitted **within sixty (60) days after the end of each semiannual calendar period (January 1 - June 30 and July 1 - December 31)**. The enclosed **Monitoring Report Form: Crematory Units**, shall be used.

Section E. Agency Notification

1. Any document (including reports) required to be submitted by this Noncovered Source Permit shall be done in accordance with Attachment I, Standard Condition No. 25.

S-1: Standard Air Pollution Control Permit Application Form
(Covered Source Permit and Noncovered Source Permit)

State of Hawaii
Department of Health
Environmental Management Division
Clean Air Branch
P.O. Box 3378 • Honolulu, HI 96801-3378 • Phone: (808) 586-4200

1. Company Name: _____
2. Facility Name (if different from the Company): _____
3. Mailing Address: _____
City: _____ State: _____ Zip Code: _____
Phone Number: _____
4. Name of Owner/Owner's Agent: _____
Title: _____ Phone: _____
Mailing Address: _____
City: _____ State: _____ Zip Code: _____
5. Plant Site Manager/Other Contact: _____
Title: _____ Phone: _____
Mailing Address: _____
City: _____ State: _____ Zip Code: _____
6. Permit Application Basis: (Check all applicable categories.)
 Initial Permit for a New Source Initial Permit for an Existing Source
 Renewal of Existing Permit General Permit
 Temporary Source Transfer of Permit
 Modification to a Covered Source: → Is Modification? Significant Minor Uncertain
 Modification to a Noncovered Source
7. If renewal or modification, include existing permit number: _____
8. Does the Proposed Source require a County Special Management Area Permit? Yes No
9. Type of Source (Check One): Covered Source Covered and PSD Source
 Noncovered Source Uncertain
10. Standard Industrial Classification Code (SICC), if known: _____

11. Proposed Equipment/Plant Location (e.g. street address): _____

City: _____ State: _____ Zip Code: _____

UTM Coordinates (meters): East: _____ North: _____

UTM Zone: _____ UTM Horizontal Datum: Old Hawaiian NAD-27 NAD-83

12. General Nature of Business: _____

13. Date of Planned Commencement of Construction or Modification: _____

14. Is **any** of the equipment to be leased to another individual or entity? Yes No

15. Type of Organization: Corporation Individual Owner Partnership

Government Agency (Government Facility Code: _____)

Other: _____

Any applicant for a permit who fails to submit any relevant facts or who has submitted incorrect information in any permit application shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information. In addition, an applicant shall provide additional information as necessary to address any requirements that become applicable to the source after the date it filed a complete application, but prior to the issuance of the noncovered source permit or release of a draft covered source permit. (HAR §11-60.1-64 & 11-60.1-84)

RESPONSIBLE OFFICIAL (as defined in HAR §11-60.1-1)

Name (Last): _____ (First): _____ (MI): _____

Title: _____ Phone: _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Certification by Responsible Official (pursuant to HAR §11-60.1-4)

I certify that I have knowledge of the facts herein set forth, that the same are true, accurate and complete to the best of my knowledge and belief, and that all information not identified by me as confidential in nature shall be treated by the Department of Health as public record. I further state that I will assume responsibility for the construction, modification, or operation of the source in accordance with the Hawaii Administrative Rules (HAR), Title 11, Chapter 60.1, Air Pollution Control, and any permit issued thereof.

NAME (Print/Type): _____

(Signature): _____ Date: _____

FOR AGENCY USE ONLY:
File/Application No.: _____
Island: _____
Date Received: _____

Submit the following documents as part of your application:

A. The **Emissions Units Table**, filled in as completely as possible. Use separate sheets of paper as needed. General instructions include the following:

1. Identify each **emission point** with a unique number for this plant site, consistent with emission point identification used on the location drawing and previous permits; if known, provide the SIC number. Emission points shall be identified and described in sufficient detail to establish the basis for fees and applicability of requirement of HAR, Chapter 11-60.1. Examples of emission point names are: heater, vent, boiler, tank, baghouse, fugitive, etc. Abbreviations may be used.
 - a. For each emission point use as many lines as necessary to list regulated and hazardous air pollutant data. For hazardous air pollutants, also list the Chemical Abstracts Service number (CAS#).
 - b. Indicate the emission points that discharge together for any length of time.
 - c. The **Equipment Date** is the date of equipment construction, reconstruction, or modification. Provide supporting documentation.
2. State the **maximum emission rates** in terms sufficient to establish compliance with the applicable requirements and standard reference test methods. Provide all supporting emission calculations and assumptions:
 - a. Include all regulated and hazardous air pollutants and air pollutants for which the source is major, as defined in HAR §11-60.1-1. Examples of regulated pollutant names are: Carbon Monoxide (CO), Nitrogen Oxides (NO_x), Sulfur Dioxide (SO₂), Volatile Organic Compounds (VOC), particulate matter (PM), and particulate less than 10 microns (PM₁₀). Abbreviations may be used.
 - b. Include fugitive emissions.
 - c. **Pounds per hour (#/HR)** is the maximum potential emission rate expected by applicant.
 - d. **Tons per year** is the annual maximum potential emissions expected by the applicant, taking into account the typical operating schedule.
3. Describe **Stack Source Parameters**:
 - a. **Stack Height** is the height above the ground.
 - b. **Direction** refers to the exit direction of stack emissions: up, down or horizontal.
 - c. **Flow Rate** is the actual, not the calculated, flow rate.
4. Provide any additional information, if applicable, as follows:
 - a. If combinations of different fuels are used that cause any of the stack source parameters to differ, complete one row for each possible set of stack parameters and identify each fuel in the **Equipment Description**.
 - b. For a rectangular stack, indicate the length and width.
 - c. Provide any information on stack parameters or any stack height limitations developed pursuant to Section 123 of the Clean Air Act.

B. A **process flow diagram** identifying all equipment used in the process, including the following:

1. Identify and describe each emission point.
2. Identify the locations of safety valves, bypasses, and other such devices which when activated may release air pollutants to the atmosphere.

C. A **facility location map**, drawn to a reasonable scale and showing the following:

1. The property involved and all structures on it. Identify property/fence lines plainly.
2. Layout of the facility.
3. Location and identification of the proposed emissions unit on the property.
4. Location of the property and equipment with respect to streets and all adjacent property. Show the location of all structures within 100 meters of the applicant's emissions unit. Provide the building dimensions (height, length, and width) of all structures that have heights greater than 40% of the stack height of the emissions unit.

D. Provide a description of any proposed modifications or permit revisions. Include any justification or supporting information for the proposed modifications or permit revisions.

Company Name: _____

File No.: _____

Location: _____

(Make as many copies of this page as necessary)

Page _____ of _____

EMISSIONS UNITS TABLE

Review of applications and issuance of permits will be expedited by supplying all necessary information on this table.

Stack No.	AIR POLLUTANT DATA: EMISSION POINTS			AIR POLLUTANT		AIR POLLUTANT EMISSION RATE		UTM Zone: _____ Horizontal Datum ^a : _____	STACK SOURCE PARAMETERS						
	Unit No.	Equipment Name/ Description & SIC number	Equipment Date	Regulated/ Hazardous Air Pollutant Name & CAS#	#/ HR	Tons/ YR	Coordinates (mtrs)		Stack Height (mtrs)	Direction (u/d/d/h) ^b	Inside Diameter (mtrs)	Velocity (m/s)	Flow Rate (m ³ /s)	Temp. (°K)	Capped (Y/N)
									East						
									North						
									East						
									North						
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									North						
									East						
									North						
									East						

^a Specify UTM Horizontal Datum as Old Hawaiian, NAD-83, or NAD-27

^b Specify the direction of the stack exhaust as u = upward, d = downward, or h = horizontal

S-8: Application for an Initial Noncovered Source Permit

In providing the required information, reference the corresponding letters and numbers listed below.

I. In accordance with Hawaii Administrative Rules (HAR) §11-60.1-63, the following information is required:**A. Equipment Specifications:**

1. Maximum design capacity.
2. Fuel type.
3. Fuel use.
4. Production capacity.
5. Production rates.
6. Raw materials.
7. Provide any manufacturer's literature.

B. Provide detailed descriptions of all processes and products. Also, provide any reasonably anticipated alternative operating scenarios, associated processes, and products.

C. Identify and describe in detail all air pollution control equipment and compliance monitoring devices or activities planned by the owner or operator, and to the extent of available information, an estimate of emissions before and after controls. Provide all calculations and assumptions.

D. Current operational limitations or work practices, or for noncovered sources that have not yet begun operation, such limitations or practices which the owner or operator of the noncovered source plans to implement that affect emissions of any regulated or hazardous air pollutants at the source.

E. Provide a detailed schedule for construction or modification of the proposed noncovered source, including any major milestones, if applicable.

F. Provide an explanation of all proposed exemptions from any applicable requirement(s).

G. Provide a Compliance Plan, Form C-1.

II. Submit an application fee according to the Application Fee Schedule in the Instructions for Applying for an Air Pollution Control Permit.**III. Provide other information as follows:**

A. As required by any applicable requirement or as requested and deemed necessary by the Director of Health (hereafter, Director) to make a decision on the application.

B. As may be necessary to implement and enforce other applicable requirements of the Clean Air Act or of HAR Chapter 11-60.1 or to determine the applicability of such requirements.

IV. The Director reserves the right to request the following information:

- A. An assessment of the ambient air quality impact of the noncovered source or modification. The assessment shall include all supporting data, calculations and assumptions, and a comparison with the National Ambient Air Quality Standards and State Ambient Air Quality Standards.
- B. A risk assessment of the air quality related impacts caused by the noncovered source or modification to the surrounding environment.
- C. Results of source emissions testing, ambient air quality monitoring, or both.
- D. Information on other available control technologies.

V. An application shall be determined to be complete only when all of the following have been complied with:

- A. All information required or requested in numbers I, III, and IV has been submitted.
- B. All documents requiring certification have been certified pursuant to HAR §11-60.1-4;
- C. All applicable fees have been submitted.
- D. The Director has certified that the application is complete.

VI. The Director shall not continue to act upon or consider an incomplete application.

- A. The applicant shall be notified in writing whether the application is complete. Unless the Director requests additional information or notifies the applicant of incompleteness within sixty days of receipt of an application, the application shall be deemed complete.
- B. During the processing of an application that has been determined or deemed complete, if the Director determines that additional information is necessary to evaluate or take final action on the application, the Director may request such information in writing and set a reasonable deadline for a response.

VII. The Director, in writing, shall approve, conditionally approve, or deny an application for a Noncovered Source Permit within six months after receipt of a complete application. A Noncovered Source Permit application for a new noncovered source or a modification shall be approved only if the Director determines that the construction or operation of the new noncovered source or modification will be in compliance with all applicable requirements.

C-1: Compliance Plan

The Responsible Official shall submit a Compliance Plan as indicated in the Instructions for Applying for an Air Pollution Control Permit and at such other times as requested by the Director of Health (hereafter, Director).

Use separate sheets of paper if necessary.

1. Compliance status with respect to all Applicable Requirements:

Will your facility be in compliance, or is your facility in compliance, with all applicable requirements in effect at the time of your permit application submittal?

YES {If YES, complete items a and c below}

NO {If NO, complete items a, b, and c below}

a. Identify all applicable requirement(s) for which compliance is achieved.

Provide a statement that the source is in compliance and will continue to comply with all such requirements.

b. Identify all applicable requirement(s) for which compliance is NOT achieved.

Provide a detailed Schedule of Compliance Schedule and a description of how the source will achieve compliance with all such applicable requirements.

<u>Description of Remedial Action</u>	<u>Expected Date of Completion</u>
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>

- c. Identify any other applicable requirement(s) with a future compliance date that your source is subject to. These applicable requirements may take effect AFTER permit issuance:

<u>Applicable Requirement</u>	<u>Effective Date</u>	<u>Currently in Compliance?</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

If the source is not currently in compliance, provide a Schedule of Compliance and a description of how the source will achieve compliance with all such applicable requirements:

<u>Description of Proposed Action/Steps to Achieve Compliance</u>	<u>Expected Date of Achieving Compliance</u>
_____	_____
_____	_____
_____	_____
_____	_____

Provide a statement that the source on a timely basis will meet all these applicable requirements:

If the expected date of achieving compliance will NOT meet the applicable requirement's effective date, provide a more detailed description of each remedial action and the expected date of completion:

<u>Description of Remedial Action and Explanation</u>	<u>Expected Date of Completion</u>
_____	_____
_____	_____
_____	_____
_____	_____

2. Compliance Progress Reports:

- a. If a compliance plan is being submitted to remedy a violation, complete the following information:

Frequency of Submittal: _____
(less than or equal to 6 months)

Beginning Date: _____

b. Date(s) that the Action described in (1)(b) was achieved:

<u>Remedial Action</u>	<u>Date Achieved</u>
_____	_____
_____	_____
_____	_____

c. Narrative description of why any date(s) in (1)(b) was not met, and any preventive or corrective measures taken in the interim:

RESPONSIBLE OFFICIAL

(as defined in HAR §11-60.1-1)

Name (Last): _____ (First): _____ (MI): _____

Title: _____ Phone: _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Certification by Responsible Official

(pursuant to HAR §11-60.1-4)

I certify that I have knowledge of the facts herein set forth, that the same are true, accurate and complete to the best of my knowledge and belief, and that all information not identified by me as confidential in nature shall be treated by the Department of Health as public record. I further state that I will assume responsibility for the construction, modification, or operation of the source in accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, and any permit issued thereof.

Name (Print/Type): _____

(Signature): _____ Date: _____

Facility Name: _____

Location: _____

Permit Number: _____

FOR AGENCY USE ONLY
File/Application No.: _____
Island: _____
Date Received: _____

\$11-60.1-67

~~\$11-60.1-68: Permit content.~~ The director shall consider and incorporate the following elements into a noncovered source permit as applicable:

- (1) Emission limitations and standards, including operational requirements and limitations to assure compliance with all applicable requirements at the time of permit issuance;
- (2) Permit term pursuant to section 11-60.1-67;
- (3) Requirements for the installation of devices, at the expense of the owner or operator, for the measurement or analysis of source emissions or ambient concentrations of air pollutants;
- (4) The requirement for source emissions tests or alternative methodology to determine compliance with the terms and conditions of the noncovered source permit and applicable requirements. Source emission tests conducted or alternative methodology used shall be at the expense of the owner or operator;
- (5) Monitoring and related recordkeeping and reporting requirements to assure compliance with all the terms and conditions of the permit, including:
 - (A) Monitoring results expressed in units, averaging periods, and other statistical conventions consistent with the applicable requirements;
 - (B) Requirements concerning the use, maintenance, and installation of monitoring equipment. The installation, operation, and maintenance of the monitoring equipment shall be at the expense of the owner or operator;
 - (C) Appropriate monitoring methods;
 - (D) Monitoring records including:
 - (i) Place as defined in the permit, date, and time of sampling or measurements;
 - (ii) Dates the analyses were performed;

- (iii) The name and address of the company or entity that performed the analyses;
- (iv) Analytical techniques or methods used;
- (v) Analyses results; and
- (vi) Operating conditions during the time of sampling or measurement;
- (E) Other records including support information, such as calibration and maintenance records, original stripchart recordings or computer printouts for continuous monitoring instrumentation, and all other reports required by the director;
- (F) A requirement for the retention of records of all required monitoring data and support information for a period of at least three years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original stripchart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit; and
- (G) Provisions for the owner or operator to annually report in writing emissions of hazardous air pollutants;
- (6) Terms and conditions for reasonably anticipated operating scenarios identified by the source in the noncovered source permit application as approved by the director. Such terms and conditions shall include:
 - (A) A requirement that the owner or operator, contemporaneously with making a change from one operating scenario to another, record in a log at the permitted facility the scenario under which it is operating and, if required

- by the director, submit written notification to the director; and
- (B) Provisions to ensure that the terms and conditions under each alternative scenario meet all applicable requirements;
- (7) General provisions including:
- (A) A statement that the owner or operator shall comply with all terms and conditions of the noncovered source permit and that any permit noncompliance constitutes a violation of this chapter, and is grounds for enforcement action; for permit termination, suspension, reopening, or amendment; or for denial of a permit renewal application;
 - (B) A severability clause to ensure the continued validity of the various permit requirements in the event of a challenge to any portion of the permit;
 - (C) A statement that it shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the terms and conditions of the permit;
 - (D) A statement that the permit may be terminated, suspended, reopened, or amended for cause pursuant to sections 11-60.1-10 and 11-60.1-72, and section 342B-27, HRS. The filing of a request by the permittee for a permit termination, suspension, reopening, or amendment or of a notification of planned changes or anticipated noncompliance does not stay any permit condition;
 - (E) A statement that the permit does not convey any property rights of any sort, or any exclusive privilege;

REMOVED BY ANY PERSON OR DIRECTOR IN REQUEST

REMOVED BY DIRECTOR

PERMIT REOPENING