COVERED SOURCE PERMIT (CSP) REVIEW (0708-01-C)

Covered Source Permit Application No. 0708-01

APPLICANT:
City and County of Honolulu
Department of Environmental Services

RESPONSIBLE OFFICIAL:
Mr. Timothy Steinberger, P.E.
Director, Environmental Services Department
1000 Uluohia Street, Suite 308
Kapolei, HI 96707
808-768-3486

POC
Mr. Frank J. Doyle
Chief, Refuse Division
808-768-3401

CONSULTANT
Mr. Dan French
Project Manager
AECOM Technical Services, Inc.
1001 Bishop Street, Suite 1600
Honolulu, HI 96813-3698
808-523-8874

LOCATION
Kapaa and Kalaheo Municipal Solid Waste Landfills
Kapaa Quarry Road
Kailua, HI 96734

MAILING ADDRESS
City and County of Honolulu
Department of Environmental Services
1000 Uluohia Street, Suite 212
Kapolei, HI 96707
808-768-3401

SIC CODE: 4953 (Refuse Systems)

PROPOSED PROJECT:

The proposed project is for the modification and operation of an existing landfill gas collection and control system (GCCS) for a municipal solid waste landfill modified after May 30, 1991. The project encompasses the Kapaa and Kalaheo Municipal Solid Waste Landfills. Although the equipment is existing, this application is considered an initial application for a new source, since the previous permit was closed.

The existing collection and control system is required to be upgraded by the Environmental Protection Agency to come into compliance with the conditions of Title 40 Code of Federal Regulations (CFR) Part 60 Subpart GGG – Federal Plan requirements for Municipal Solid Waste Landfills that Commenced Construction Prior to May 30, 1991 and Have Not Been

Modified or Reconstructed Since May 30, 1991.

The Kapaa Landfill was opened in 1970 and closed in 1985. The Kalaheo Landfill was opened in 1987 and closed in 1990. The design capacity of each landfill is as follows:

Landfill	Capacity (Megagrams)
Kapaa	4,218,834
Kalaheo	1,188,425
Total	5,407,259

It has been determined by the United Stated Environmental Protection Agency (EPA) that the Kapaa and Kalaheo landfills are considered a single source. Therefore the gas collection and control system will encompass both the Kapaa and Kalaheo Landfills.

The Kapaa and Kalaheo Landfills have existing gas wells and previously operated a passive flare for gas migration control. The systems will be upgraded to conform to the requirements of 40 CFR 62 Subpart GGG. The flares will be upgraded to include continuous relight features, thermocouples for monitoring and a data logger for recording.

Landfill gas (LFG) is collected by the landfill gas collection system, which consists of a network of vertical extraction wells, horizontal collectors and pipelines. The landfill gas is then routed to an inlet sump, where landfill gas condensate is collected. The landfill gas is then routed to a knockout vessel to remove particulate from the gas stream. Blowers provide vacuum to the LFG collection system and pressurize the LFG for delivery to the flare. LFG condensate is also routed to the flare for destruction.

The landfill GCCS equipment consists of the following:

1. Vertical Extraction Wells
2. Horizontal Connectors
3. Gas Collection System Piping
4. Condensate Collection and Management
5. Flares (6 @ 200 cfm)
6. Blowers (2 @ 200 scfm initially; additional units to be added as needed)

Each flare is designed to meet the following performance requirements:

- Maximum Btu/hr: 65 MMBtu/hr (2,045 scfm @ 50% CH_4)
- Minimum Btu/hr (LHV): 6.5 MMBtu/hr (204 scfm @ 50% CH_4)
- Minimum retention time: 0.6 seconds
- Minimum combustion temperature: 1600° F
- Destruction efficiency: weighted average destruction efficiency greater than 98% of volatile organic compounds (NMOC's) across the full range of gas flow rates.

The stack for each of the six flares is approximately 4 feet in diameter, 25 feet tall and is equipped with sample ports, temperature monitoring devices, propane pilot ignition system, UV

flame detector assemblies, with a flame arrestor and pneumatic shutdown assembly at the flare inlet.

The extraction wells will be operated with a working vacuum that produces the highest sustainable flow of LPG without drawing in excessive air. Maximum well temperatures are to be maintained below 131°F (55°C) with an oxygen concentration of less than 5%. To demonstrate compliance with the operating parameter limits, the wells will be monitored monthly for pressure (vacuum) and temperature, along with methane, carbon dioxide, and oxygen concentrations. Wells determined to be operating outside of compliance limits will be adjusted by changing the amount of vacuum in the well.

The landfill surface is required to be monitored on a quarterly basis. If the surface readings exceed 500 parts per million of methane, corrective action is required. The landfill is also required to perform a monthly cover inspection to check for air infiltration or landfill gas migration. Other monitoring devices on the landfill gas collection and control system include a continuous temperature monitor for the flare and a continuous recording flow meter for monitoring landfill gas flow to the flare.

AIR POLLUTION CONTROL EQUIPMENT:
All of equipment to be installed is for control of the MSW landfill gas. Pursuant to Federal New Source Performance Standards, the collection and control system is required by NSPS to be designed and operated to reduce NMOC by 98 weight-percent, or to reduce the outlet NMOC concentration to less than 20 parts per million by volume, dry basis as hexane at 3 percent oxygen.

APPLICABLE FEDERAL REQUIREMENTS:
Federal Plan:

40 CFR Part 62, Subpart GGG – *Federal Plan Requirements for Municipal Solid Waste Landfills That Commenced Construction Prior to May 30, 1991 and Have Not Been Modified or Reconstructed Since May 30, 1991*

40 CFR Part 62, Subpart A – *General Provisions*

The facility is subject to the Federal Plan because the following criteria have been satisfied:

1. *The landfill was modified or constructed prior to May 30, 1991*. The Kapaa landfill was closed in 1985 and the Kalaheo landfill was closed in 1990.
2. *The maximum capacity exceeds 2.5 million megagrams and 2.5 million cubic meters.* The application states that the capacity of both landfills all phases is 5,407,259 Megagrams.

Landfills subject to the Federal requirements are also required to calculate annual NMOC emissions generated by their facility. Facilities that exceed 50 Mg/yr are required to install and operate a landfill gas collection and control system. Annual NMOC emissions from the Central Maui Landfill are in excess of 50 Mg/yr, requiring the installation of the landfill gas collection and control system.

National Emission Standards for Hazardous Air Pollutants (NESHAP):
40 CFR Part 63, Subpart AAAA - *National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills*

40 CFR Part 63, Subpart A - *National Emission Standards for Hazardous Air Pollutants for Source Categories, - General Provisions*;

The facility is subject to NESHAP for MSW landfills because waste was accepted after November 8, 1987, the design capacity is greater than 2.5 million megagrams and 2.5 million cubic meters, and the estimated uncontrolled nonmethane organic compound (NMOC) emissions is equal to or greater than 50 megagrams per year. Facilities are not subject to the NESHAP regulations unless the 50 Mg/yr annual emission limit is exceeded.

The NESHAP rule adds startup, shutdown and malfunction requirements, adds operating condition deviations for out-of-bounds monitoring parameters, requires timely control of bioreactor landfills, and changes the reporting frequency for compliance reporting from annually to every six months.

APPLICABLE STATE REQUIREMENTS:
Hawaii Administrative Rules (HAR)
Chapter 11-59, Ambient Air Quality Standards
Chapter 11-60.1, Air Pollution Control
- Subchapter 1, General Requirements
- Subchapter 2, General Prohibitions
  - 11-60.1-31 Applicability
  - 11-60.1-32 Visible Emissions
  - 11-60.1-33 Fugitive Dust
  - 11-60.1-38 Sulfur Oxides from fuel combustion
- Subchapter 5, Covered Sources
- Subchapter 6, Fees for Covered Sources, Noncovered Sources, & Agricultural Burning
  - 11-60.1-111 Definitions
  - 11-60.1-112 General fee provisions for covered sources
  - 11-60.1-113 Application fees for covered sources
  - 11-60.1-114 Annual fees for covered sources
- Subchapter 8, Standards of Performance for Stationary Sources
- Subchapter 9, Hazardous Air Pollution Sources

NONAPPLICABLE REQUIREMENTS:
PREVENTION OF SIGNIFICANT DETERIORATION (PSD):
The regulations for MSW landfill gas control are based upon Maximum Achievable Control Technology (MACT) standards. PSD requires the use of Best Available Control Technology (BACT), a less stringent standard. Therefore a PSD review is not required for this project.

BEST AVAILABLE CONTROL TECHNOLOGY (BACT) REQUIREMENTS:
BACT standards do not apply to MSW landfills. If landfill emissions exceed 50 megagrams per year, the landfill is required to install a gas collection and control system subject to Maximum

Achievable Control Technology (MACT) standards. MACT standards are more stringent than BACT standards, so BACT does not apply.

CONSOLIDATED EMISSIONS REPORTING RULE (CERR):
Consolidated Emissions Reporting Rule (CERR) is not an applicable requirement because annual emissions from the facility do not exceed the minimum than reporting levels for a Type B source pursuant to 40, CFR 51, Subpart A. (see following table)

CERR Reporting Requirements

Pollutant	Facility Emissions (tpy)	CERR Triggering Levels (tpy)		Internal Reporting Threshold (tpy)
		1-yr Reporting Cycle (Type A Sources)	3-yr Reporting Cycle (Type B Sources)	
VOC	3.54	≥ 250	≥ 100	≥ 25
PM_{10}	2.51	≥ 250	≥ 100	≥ 25
$PM_{2.5}$	2.51	≥ 250	≥ 100	≥ 25
NO_x	5.90	≥ 2,500	≥ 100	≥ 25
SO_x	2.36	≥ 2,500	≥ 100	≥ 25
CO	110.66	≥ 2,500	≥ 1,000	≥ 250
HAPs (total)	0.25	n/a	n/a	≥ 5

SYNTHETIC MINOR APPLICABILITY:
The facility does not propose any operational restrictions to not exceed major source emission levels. Therefore, the facility is not a synthetic minor source.

COMPLIANCE ASSURANCE MONITORING:
Compliance Assurance Monitoring (CAM) applies to facilities that fulfill all of the following criteria:

1. Facility is a major source that is required to obtain a part 70 (Title V) or 71 (Federal Plan) permit.
2. Facility is subject to emission limitation or standard for the applicable pollutant.
3. Facility uses a control device to achieve compliance.
4. Potential pre-control emissions of applicable pollutant are at least 100 percent of major source amount
5. Facility. is subject to a federal standard (NSPS or NESHAPS) promulgated before November 15, 1990.

The landfill NSPS (40 CFR 60 Subpart WWW) was promulgated on March 12, 1996. Therefore, the landfill gas collection and control equipment are exempt from CAM provisions.

INSIGNIFICANT ACTIVITIES/EXCEPTIONS:
A 40,000 gallon condensate storage tank is listed as an insignificant activity.

ALTERNATIVE OPERATING SCENARIOS:

No alternate operating scenarios were proposed by the applicant.

PROJECT EMISSIONS:
Landfill emissions after the installation of the landfill gas collection and control systems will consist of emissions from the flare burning the landfill gas and surface emissions from the landfill itself.

To determine the emissions from the flares, it was assumed that the landfill gas has a methane concentration of 50% by volume, and the landfill gas is saturated with water vapor. Flare emissions on a per unit basis are as follows:

Adjusted Flow Rate:	93.57	cubic feet/min of Methane	# of flares:	6
	5,614.45	cubic feet/hr of Methane		
		million cubic feet/hour		
	5.61E-03	Methane		
	12,000	cubic feet/hour of landfill gas		

Pollutant	Emission Factor	Units	(lb/hr)	(g/s)	(ton/yr)	Total All Flares (ton/yr)
NO_2	40	lb/10^6 dscf Methane	0.225	0.028	0.984	5.902
CO	750	lb/10^6 dscf Methane	4.211	0.531	18.443	110.661
PM_{25}[2]	17	lb/10^6 dscf Methane	0.095	0.012	0.418	2.508
SO_2	7.47E-06	lb/scf landfill gas	0.090	0.011	0.393	2.355
VOC[3]	1.04E-06	lb/scf landfill gas	0.012	0.002	0.055	0.328

Notes:

1. NO2, CO and PM Emission factors obtained from AP-42, table 2.4.5 (11/98)
2. Pursuant to table 2.4.5, footnote b; PM=PM10=PM25.
3. VOC emission factor assumes 98% of VOC destroyed by flare.
4. SO2 and VOC emission factors obatined by mass balance.

HAP emissions from the flare are derived using landfill gas concentrations referenced in AP-42, section 2.4, Municipal Solid Waste Landfills and the specified flow rate for the flare. HAP flare emissions are:

LANDFILL FLARE HAP EMISSIONS

Flare flow rate (per flare)	200	ft^3/min
LFG Generation Rate	2,976,667	m^3/yr
Flare destruction efficiency	98%	
Number of flares	6	

Pollutant	Median ppmv	Mol. Wt (g/g-mole)	Grav. Conc. (mg/m^3)	Uncontrolled Emissions (tpy)	Controlled Emissions (tpy)	Total Emissions Multiple Flares (tpy)
1,1,1-Trichloroethane (methyl chloroform)	0.48	133.41	2.66	8.74E-03	1.75E-04	1.05E-03
1,1,2,2-Tetrachloroethane	1.11	167.85	7.75	2.54E-02	5.09E-04	3.05E-03
1,1-Dichloroethane (ethylidene dichloride)	2.35	98.97	9.67	3.17E-02	6.35E-04	3.81E-03

LANDFILL FLARE HAP EMISSIONS

Flare flow rate (per flare)	200	ft^3/min
LFG Generation Rate	2,976,667	m^3/yr
Flare destruction efficiency	98%	
Number of flares	6	

Pollutant	Median ppmv	Mol. Wt (g/g-mole)	Grav. Conc. (mg/m^3)	Uncontrolled Emissions (tpy)	Controlled Emissions (tpy)	Total Emissions Multiple Flares (tpy)
1,1-Dichloroethene (vinylidene chloride)	0.2	96.94	0.81	2.65E-03	5.29E-05	3.18E-04
1,2-Dichloroethane (ethylene dichloride)	0.41	98.96	1.69	5.54E-03	1.11E-04	6.65E-04
1,2-Dichloropropane (propylene dichloride)	0.18	112.99	0.85	2.78E-03	5.55E-05	3.33E-04
Acrylonitrile	6.33	53.06	13.97	4.58E-02	9.17E-04	5.50E-03
Carbon disulfide	0.58	76.13	1.84	6.03E-03	1.21E-04	7.23E-04
Carbon monoxide	141	28.01	164.28	5.39E-01	1.08E-02	6.47E-02
Carbon tetrachloride	0.004	153.84	0.03	8.40E-05	1.68E-06	1.01E-05
Carbonyl sulfide	0.49	60.07	1.22	4.02E-03	8.03E-05	4.82E-04
Chlorobenzene	0.25	112.56	1.17	3.84E-03	7.68E-05	4.61E-04
Chloroethane (ethyl chloride)	1.25	64.52	3.35	1.10E-02	2.20E-04	1.32E-03
Chloroform	0.03	119.39	0.15	4.89E-04	9.78E-06	5.87E-05
Chloromethane	1.21	50.49	2.54	8.34E-03	1.67E-04	1.00E-03
Dichloromethane (methylene chloride)	14.3	84.94	50.53	1.66E-01	3.32E-03	1.99E-02
Ethylbenzene	4.61	106.16	20.36	6.68E-02	1.34E-03	8.02E-03
Hexane (n)	6.57	86.18	23.55	7.73E-02	1.55E-03	9.27E-03
Hydrogen sulfide	35.5	34.08	50.33	1.65E-01	3.30E-03	1.98E-02
Mercury (total)	2.53E-04	200.61	0.00	6.93E-06	1.39E-07	8.31E-07
Methyl isobutyl ketone	1.87	100.16	7.79	2.56E-02	5.11E-04	3.07E-03
Pentane (n)	3.29	72.15	9.87	3.24E-02	6.48E-04	3.89E-03
Perchloroethylene (tetrachloroethylene)	3.73	165.83	25.73	8.44E-02	1.69E-03	1.01E-02
Trichloroethylene (trichloroethene)	2.82	131.38	15.41	5.06E-02	1.01E-03	6.07E-03
Vinyl chloride	7.34	62.5	19.08	6.26E-02	1.25E-03	7.51E-03
Xylenes (mixed)	12.1	106.16	53.43	1.75E-01	3.51E-03	2.10E-02
Benzene	1.91	78.11	6.21	2.04E-02	4.07E-04	2.44E-03
Toluene	39.3	92.13	150.61	4.94E-01	9.88E-03	5.93E-02
				TOTAL HAPs	4.23E-02	2.54E-01

Fugitive HAP emissions were determined using landfill gas concentrations referenced in AP-42, section 2.4, Municipal Solid Waste Landfills. Due to the fact that the LGCS system has an efficiency of 75%, the flow rate was assumed to be 25% of the landfill gas flow rate determined by LandGEM. HAP emissions are as follows:

LANDFILL FUGITIVE HAP EMISSIONS

Kapaa Landfill gas flow rate	693.5	ft^3/min
Kalaheo Landfill gas flow rate	248.9	ft^3/min
Total LFG Generation Rate	942	
Collection system efficiency	75%	
Controlled landfill fugitive gas flow rate	236	ft^3/min
	3.51E+06	m^3/yr

Pollutant	Median ppmv	Mol. Wt (g/g-mole)	Grav. Conc. (mg/m^3)	Uncontrolled Emissions (tpy)
1,1,1-Trichloroethane (methyl chloroform)	0.48	133.41	2.66	6.92E-07
1,1,2,2-Tetrachloroethane	1.11	167.85	7.75	2.01E-06
1,1-Dichloroethane (ethylidene dichloride)	2.35	98.97	9.67	2.51E-06
1,1-Dichloroethene (vinylidene chloride)	0.2	96.94	0.81	2.09E-07
1,2-Dichloroethane (ethylene dichloride)	0.41	98.96	1.69	4.38E-07
1,2-Dichloropropane (propylene dichloride)	0.18	112.99	0.85	2.20E-07
Acrylonitrile	6.33	53.06	13.97	3.63E-06
Carbon disulfide	0.58	76.13	1.84	4.77E-07
Carbon monoxide	141	28.01	164.28	4.27E-05
Carbon tetrachloride	0.004	153.84	0.03	6.65E-09
Carbonyl sulfide	0.49	60.07	1.22	3.18E-07
Chlorobenzene	0.25	112.56	1.17	3.04E-07
Chloroethane (ethyl chloride)	1.25	64.52	3.35	8.71E-07
Chloroform	0.03	119.39	0.15	3.87E-08
Chloromethane	1.21	50.49	2.54	6.60E-07
Dichloromethane (methylene chloride)	14.3	84.94	50.53	1.31E-05
Ethylbenzene	4.61	106.16	20.36	5.29E-06
Hexane (n)	6.57	86.18	23.55	6.12E-06
Hydrogen sulfide	35.5	34.08	50.33	1.31E-05
Mercury (total)	2.53E-04	200.61	0.00	5.48E-10
Methyl isobutyl ketone	1.87	100.16	7.79	2.02E-06
Pentane (n)	3.29	72.15	9.87	2.56E-06
Perchloroethylene (tetrachloroethylene)	3.73	165.83	25.73	6.68E-06
Trichloroethylene (trichloroethene)	2.82	131.38	15.41	4.00E-06
Vinyl chloride	7.34	62.5	19.08	4.96E-06
Xylenes (mixed)	12.1	106.16	53.43	1.39E-05
Benzene	1.91	78.11	6.21	1.61E-06
Toluene	39.3	92.13	150.61	3.91E-05
			TOTAL	1.67E-04

Fugitive NMOC Emissions (Kapaa)	22.01	Mg/yr	24.26	tpy
Fugitive NMOC Emissions (Kalaheo)	7.9	Mg/yr	8.71	tpy
Total Fugitive NMOC Emissions	29.91	Mg/yr	32.97	tpy
Collection system efficiency	75%		75%	
Fugitive NMOC Emissions (after controls)	7.48	Mg/yr	8.24	tpy
Assuming VOC=39% NMOC pursuant to AP-42				
Fugitive VOC emissions	2.92	Mg/yr	3.21	tpy

The total emissions from the six flares and fugitive emissions from the landfill surface is:

Flare Emissions

Flare No.	Emissions (tpy)						
	NO_x	CO	SO_x	PM_{25}	HAP	NMOC	VOC
1	0.98	18.44	0.39	0.42	0.04	0.14	0.05
2	0.98	18.44	0.39	0.42	0.04	0.14	0.05
3	0.98	18.44	0.39	0.42	0.04	0.14	0.05

Flare Emissions

Flare No.	Emissions (tpy)						
	NO_x	CO	SO_x	PM_{25}	HAP	NMOC	VOC
4	0.98	18.44	0.39	0.42	0.04	0.14	0.05
5	0.98	18.44	0.39	0.42	0.04	0.14	0.05
6	0.98	18.44	0.39	0.42	0.04	0.14	0.05
Total Flare Emisions	5.90	110.66	2.36	2.51	0.25	0.84	0.33
Landfill Fugitive Emissions					1.67E-04	8.24	3.21
Total Emissions	5.90	110.66	2.36	2.51	0.25	9.08	3.54

AIR QUALITY ASSESSMENT:

To determine the ambient air impact from the gas collection and control system, the EPA approved SCREEN3 modeling program was used. Parameter settings used in the assessment included simple terrain, default meteorology, and rural input setting. Building downwash was not considered, since no buildings are located in the vicinity of the landfill. The analysis only addresses emissions from the flare since it is the only point source of emissions. For conservatism, the modeling assumed that all six of the flares are located at the same location. Therefore, the emissions from one flare is modeled with the results multiplied by six to obtain the impact from six flares.

The input parameters used in the model are:

EMISSION RATES AND STACK PARAMETERS FOR AIR MODELING

EMISSION RATES (g/s)					STACK PARAMETERS			
SO_2	NO_X	CO	PM_{10}	Pb	Height (m)	Temp (K)	Velocity (m/s)	Diameter (m)
1.0	1.0	1.0	1.0	N/A	7.62	1255.4	0.3444	1.2192

The result from the model demonstrated that the normalized concentration was 414.8 µg/m^3 per g/s. The normalized concentration is then multiplied by the emission rates for the pollutants in question. A summary of the ambient air quality impacts is shown in the following table:

Normalized Concentration =			414.8	µg/m^3 per g/s (one flare)					
Pollutant	Avg. Period	Emission Rate (g/s)	Time Factor	CONCENTRATION (µg/m^3)					% of std.
				Conc.	Adj. Con[1]	Bkgrnd[2]	Total	Std	
CO	1-HR	0.531	1	220.08	1,320.47	1,832	3,152	10,000	31.5
	8-HR	0.531	0.7	154.06	924.33	1,031	1955	5,000	39.1
NO_x	1-HR	0.028	1	11.74	70.43	35.5	106	188	56.3
	Ann.	0.028	0.2	2.35	14.09	4.58	19	70	26.7
PM_{10}	24-HR	0.012	0.4	2.00	11.97	34	46	150	30.6
	Ann.	0.012	0.2	1.00	5.99	13	19	50	38.0
PM_{25}	24-HR	0.012	0.4	2.00	11.97	21	33	35	94.2
	Ann.	0.012	0.2	1.00	5.99	4.8	11	15	71.9
SO_2	1-HR	0.011	1	4.68	28.10	17	45	75	60.1

Normalized Concentration =			414.8	µg/m^3 per g/s (one flare)					
Pollutant	**Avg. Period**	**Emission Rate (g/s)**	**Time Factor**	**CONCENTRATION (µg/m^3)**					**% of std.**
				Conc.	**Adj. Con[1]**	**Bkgrnd[2]**	**Total**	**Std**	
	3-HR	0.011	0.9	4.22	25.29	24	49	1,300	3.8
	24-HR	0.011	0.4	1.87	11.24	13	24	365	6.6
	Ann.	0.011	0.2	0.94	5.62	3	9	80	10.8

[1] concentration multiplied by the number of flares (6)

[2.] All background concentrations except NOx obtained from Honolulu monitoring station, 2009. NOx background concentration obtained from Kapolei monitoring station, 2009

The air modeling demonstrates that the operation of the equipment complies with State and Federal ambient air quality standards.

OTHER ISSUES:

The landfill CGGS does not use a bypass stack. The system is designed to shut off the blower and main landfill gas valve if the control device is not operating. To account for this scenario, references to the control system bypass in the permit will be prefaced with "if applicable".

Since the landfill is no longer accepting waste, the permittee is not able to comply with special condition G.7. Therefore, the permittee will be allowed to submit the closure form within 60 days of permit issuance.

Due to the fact that the landfill is subject to the Federal Plan for Municipal Solid Waste Landfills (40 CFR 62 Subpart GGG), the permittee is subject to additional regulation when compared to both the NSPS and Emissions Guidelines. The additional conditions are for increments of progress, and have been incorporated into the permit in Attachment II, Section I, Federal Plan Requirements.

SIGNIFICANT PERMIT CONDITIONS:

None; permit conditions taken verbatim from applicable federal regulations.

CONCLUSION AND RECOMMENDATION:

The construction and operation of the gas collection and control system for the Kapaa and Kalaheo Municipal Solid Waste Landfills complies with all applicable state and federal requirements. Recommend issuance of covered source permit pending 30 day public comment period and 45-day EPA review.

Kevin Kihara
March 30, 2011