PERMIT APPLICATION REVIEW
COVERED SOURCE PERMIT No. 0432-01-C
Application for Renewal No. 0432-04

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BACKGROUND

Hyatt Regency has submitted an application to renew its covered source permit no. 0432-01-C that was issued on July 30, 2010. No modifications are proposed.

The facility consists of two (2) 300 HP industrial fire-tube steam boilers operating with fuel oil no. 2 as a primary fuel and liquefied petroleum gas (LPG) as backup. LPG is only used during boiler inspections and as an emergency fuel. The boilers provide hot water and steam for the facility including the in-house laundry area, and are required to be operational 24 hours per day, 365 days per year. The two (2) boilers are physically prevented from simultaneous operation by control interlocks allowing only a single boiler to operate at any one time.

Boiler no. B-2 is subject to 40 Code of Federal Regulations (CFR) Part 60, Subpart Dc - *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*. Boiler no. B-1 is not subject to this subpart. Both boilers are included in the covered source permit per Hyatt's request during the review for the initial covered source permit.

EQUIPMENT DESCRIPTION

Unit	Manufacturer	Model No.	Serial No.	Installation Date	Capacity (MMBtu/Hr)
B-1	York-Shipley	SPH-300-N/2	79-12551	1979	12.5
B-2	York-Shipley	SPHV-300-N/2-LP	92-18871	1992	12.5

AIR POLLUTION CONTROLS

The boilers are not equipped with add on air pollution controls. SO_2 control is achieved by use of fuel oil no. 2, with a sulfur content not to exceed 0.5% by weight, and the backup fuel LPG with its inherently low sulfur content.

APPLICABLE REQUIREMENTS

Hawaii Administrative Rules (HAR)
Title 11 Chapter 59, Ambient Air Quality Standards
Title 11 Chapter 60.1, Air Pollution Control
- Subchapter 1, General Requirements
- Subchapter 2, General Prohibitions
  - 11-60.1-31, Applicability
  - 11-60.1-32, Visible Emissions
  - 11-60.1-38, Sulfur Oxides from Fuel Combustion
- Subchapter 5, Covered Sources
- Subchapter 6, Fees for Covered Sources, Noncovered Sources, and 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
  - 11-60.1-161, New Source Performance Standards
  - 11-60.1-161 (1), Subpart A, General Provisions
  - 11-60.1-161 (5), Subpart Dc, Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units
- Subchapter 9, Hazardous Air Pollutant Sources

Standard of Performance for New Stationary Sources (NSPS), 40 CFR Part 60
Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units (SGUs)* applies to each SGU for which construction is commenced after June 9, 1989, and that has a maximum design heat input capacity of 100 MMBtu/hr or less, but greater than or equal to 10 MMBtu/hr. This standard is applicable to boiler no. B-2, but not applicable to boiler no. B-1.

National Emission Standards for Hazardous Air Pollutants (NESHAPS), 40 CFR Part 61
The facility is not a major stationary source of hazardous air pollutants (HAPs) and is not subject to any NESHAPS requirements under 40 CFR Part 61.

National Emission Standards for Hazardous Air Pollutants for Source Categories (Maximum Achievable Control Technology (MACT)), 40 CFR Part 63
Subpart JJJJJJ, *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources* is applicable to the two (2) boilers because they are industrial boilers located at an area source of HAPs. The boilers are classified in the oil subcategory and are considered existing sources since they were constructed before June 4, 2010. In accordance with §63.11201, the two (2) boilers must comply with the work practice management practice standards which require an initial tune-up, biennial tune-ups and a one-time energy assessment. Compliance with these standards must be achieved no later than March 21, 2014, pursuant to §63.11196.

Prevention of Significant Deterioration (PSD), 40 CFR 52.21
This source is not subject to PSD requirements because it is not a major stationary source as defined in 40 CFR 52.21 and HAR Title 11, Chapter 60.1, Subchapter 7.

Compliance Assurance Monitoring (CAM), 40 CFR 64
This source is not subject to CAM since the facility is not a major source. The purpose of CAM is to provide a reasonable assurance that compliance is being achieved with large emissions units that rely on air pollution control device equipment to meet an emissions limit or standard. Pursuant to 40 CFR Part 64, for CAM to be applicable, the emissions unit must: (1) be located at a major source; (2) be subject to an emissions limit or standard; (3) use a control device to achieve compliance; (4) have potential pre-control emissions that are 100% of the major source level; and (5) not otherwise be exempt from CAM.

Air Emissions Reporting Requirements (AERR), 40 CFR Part 51, Subpart A
AERR is not applicable because potential emissions from the facility do not exceed the AERR triggering levels (see table below).

Pollutant	**Facility Emissions (TPY)**[1] [8,760 hr/yr]	**AERR Triggering Levels (TPY)**	
		1 year cycle (type A sources)	**3 year cycle (type B sources)**
CO	1.96	2500	1000
NO_X	7.82	2500	100
SO_2	27.77	2500	100
PM	0.78	-	-
PM_{10}	0.42	250	100
$PM_{2.5}$	0.32	250	100
VOC	0.078	250	100
Lead (Pb)	0.00049	5	5
HAPs	0.031	-	-

[1] See attached emission calculation spreadsheets.

Department of Health (DOH) In-house Annual Emissions Reporting
The Clean Air Branch requests annual emissions reporting from those facilities that have facility-wide emissions exceeding in-house reporting levels and for all covered sources. This facility is subject to annual emissions reporting requirements as a covered source.

Best Available Control Technology (BACT)
A BACT analysis is required for new sources or modifications to sources that have the potential to emit or increase emissions above significant levels considering any limitations as defined in HAR, Section 11-60.1-1. This facility is not subject to a BACT analysis because it is an existing source with no proposed modifications.

Synthetic Minor Source
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 source because potential emissions do not exceed major source thresholds when the facility is operated at its maximum capacity for 8,760 hours per year.

INSIGNIFICANT ACTIVITIES

Emergency Diesel Engine Generator
The 536 HP (400 kW) diesel engine generator was identified as an insignificant activity under HAR 11-60.1-82(f)(5). The generator is an emergency unit operated only during power outages, and maintenance and testing of the unit. It is fired exclusively on fuel oil no. 2. The facility remains a non-major source when the emissions from the generator are combined with emissions from one 300 HP boiler (see previous permit application review for results).

ALTERNATIVE OPERATING SCENERIOS

None proposed.

PROJECT EMISSIONS

300 HP Bolier Fuel Combustion Emissions
Emissions were estimated for firing one (1) 300 HP boiler on fuel oil no. 2 continuously (8,760 hr/yr) at the rated heat input capacity of 12.5 MMBtu/hr. Emissions were determined with a heating value of 0.14 MMBtu/gal for fuel oil no. 2 and emission factors from AP-42, Section 1.3 (5/10) - *Fuel Oil Combustion*.

Emissions are summarized in the table below.

Emissions (TPY)[1] [8,760 hr/yr]	
Pollutant	One 300 HP Boiler
CO	1.96
NO_X	7.82
SO_2	27.77
PM	0.78
PM_{10}	0.42
$PM_{2.5}$	0.32
VOC	0.078
Lead (Pb)	0.00049
HAPs	0.031

[1] See attached emission calculation spreadsheets.

Greenhouse Gas (GHG) Emissions

GHG	GWP	GHG Mass-Based Emissions (TPY)[1]	GHG CO_2e Based Emissions (TPY)
Carbon Dioxide (CO_2)	1	8,720.89	8,720.89
Methane (CH_4)	25	0.084	2.11
Nitrous Oxide (N_2O)	298	0.10	30.30
Total Emissions:			8,753.30

[1] See attached emission calculation spreadsheets.

AMBIENT AIR QUALITY ASSESSMENT

An ambient air quality assessment (AAQA) is generally required for new sources or modified sources with emission increases. An AAQA was not conducted for this renewal because no changes or modifications are proposed. See previous permit application review for AAQA results.

SIGNIFICANT PERMIT CONDITIONS

1. Only one (1) of the two (2) boilers may be operated at any time. In no event shall the boilers be operated simultaneously.

   Reason: Existing permit condition. The modeling analysis reflects the operation of only one (1) boiler which the applicant proposed during the initial review.

2. A log shall be maintained for the permanent recording of boiler operations for the purpose of complying with the operational limit specified in Special Condition No. C.1. The following information shall be recorded each time a boiler is started or shut off:

   a. The unit number (B-1 or B-2) of the boiler operated;
   b. The date and time the boiler is started; and
   c. The date and time the boiler is shut off.

   Reason: To monitor compliance with the condition limiting the permittee to operate only one (1) boiler at any time.

3. A non-resetting volumetric flow meter shall be installed, operated, and maintained in the fuel line servicing the two (2) 300 HP boilers for the permanent recording of the total gallons of fuel oil no. 2 fired in each of the boilers. The following records shall be maintained:

   a. The unit number (B-1 or B-2) of the boiler for which the fuel usage is being recorded;
   b. The date of the meter readings;
   c. The beginning meter readings for each day;
   d. The type of fuel fired and the total fuel used (gallons) for each day; and
   e. The type of fuel fired and the total fuel used (gallons) for each year.

Reason: To satisfy DOH annual emissions reporting requirements and the requirements of 40 CFR Part 60, Subpart Dc.

4. A log shall be maintained for the permanent recording of the total number of hours each boiler is fired on LPG. Each time period during which the boiler begins operating on LPG and stops operating on LPG shall be considered an event. For each event, the following information shall be recorded:

   a. The unit number (B-1 or B-2) of the boiler for which the information is being recorded;
   b. The date and time the boiler began operating on LPG;
   c. The date and time the boiler stopped operating on LPG;
   d. The total number of hours the boiler was fired on LPG during the recorded event; and
   e. The total number of hours each boiler was fired on LPG, on an annual basis.

   Reason: To satisfy DOH annual emissions reporting requirements.

5. Fuel purchase receipts, showing the supplier, fuel type, sulfur content (percent by weight), date of delivery, and amount (gallons) of fuel delivered to the site for the two boilers shall be maintained. Fuel sulfur content may be demonstrated by providing the supplier's fuel certification for the type of fuel purchased and received in accordance with 40 CFR Part 60, Subpart Dc, §60.48c(f)(1).

   Reason: Per the NSPS, compliance with the fuel oil sulfur limits may be achieved using the fuel supplier certification.

6. Tune-ups and energy assessment shall be conducted for the boilers, which include:

   a. Initial tune-up as specified in §63.11214(b);
   b. Biennial tune-ups as specified in §63.11223(b); and
   c. One-time energy assessment performed by a qualified energy assessor as specified in §63.11201(b).

   Reason: To satisfy the requirements of 40 CFR Part 63 Subpart JJJJJJ, for existing oil-fired boilers with heat input capacity of 10 MMBtu/hr and greater.

CONCLUSION

Potential emissions from one (1) 300 HP boiler were estimated based on the maximum design capacity. Actual emissions should be lower because each boiler is not expected to reach maximum capacity for extended periods during service.

Recommend issuance of the renewal for the covered source permit subject to the incorporation of the significant permit conditions and forty-five (45) day EPA review.

Jing Hu
August 20, 2014