

## **Addendum to the Permit Review Summary for CSP No. 0724-01-C,** **Application No. 0724-01**

On February 7, 2014, EPA Administrator Gina McCarthy signed an order [*Order Granting in Part and Denying in Part Petition for Objection to Permit*] in response to a petition from Preserve Pepeekeo Health and Environment [Petition No. IX-2011-1] requesting that EPA object to HDOH's Covered Source Permit No. 0724-01-C for the Hu Honua Bioenergy Facility.

The Petitioner requested that EPA object to CSP No. 0724-01-C on thirteen grounds. Of these, the Administrator granted three:

- a. The permit fails to ensure compliance with the criteria air pollutant emission limits.
- b. The permit fails to ensure compliance with the hazardous air pollutant emission limits.
- c. The permit record does not adequately explain an emission limit exemption that applies during startup and shutdown.

The permit amendment to CSP No. 0724-01-C to address EPA's comments (items a. and b.) are addressed on pages 3 to 9 of this addendum. This permit amendment has been processed in a manner consistent with the procedures for a significant modification since being published for public notice in March 2014.

Revisions to the permit review summary (permit record) to address EPA's comment (item c) are addressed below.

### Attachment II, Special Condition No. C.2.      Boiler CO, NO<sub>x</sub>, SO<sub>2</sub>, VOC and HCl Emissions

The NO<sub>x</sub>, SO<sub>2</sub>, VOC and HCl emission limits shall be complied with at all times, except during boiler startup and shutdown. The CO emission limit shall be based on a thirty-day (30-day) rolling average when monitored by the CO continuous emissions monitoring system required in Attachment II, Special Condition No. E.8 and shall be complied with at all times, except during boiler startup and shutdown. The CO emission limit shall be based on a 3-hour average when conducting the performance test required in Attachment II, Special Condition No. G.1.a.

The short term NO<sub>x</sub>, CO, and PM<sub>10</sub> (filterable) numerical limits are based on the Hawaii's BACT requirements since these emissions were above the BACT significant levels. The emissions of SO<sub>2</sub> and VOC were less than Hawaii's BACT significant levels and are such not subject to BACT. The numerical BACT limits are applicable only during the equipment's normal operating conditions since the air pollution control equipment are not fully optimized during startup and shutdown conditions. The exclusion of startup and shutdown periods for numerical emission limits follows the requirements in 40 CFR Part 63, Subpart JJJJJJ, Table 1. The permit also requires the permittee to follow work practice standards to minimize the boiler's startup and shutdown emissions per the manufacturer's recommended procedures in accordance with 40 CFR Part 63, Subpart JJJJJJ, Table 2. In addition, it would be difficult to verify any numerical startup and shutdown emission limits using a source performance test.

Consistent with the Clean Air Act, emission limits are required during separate startup periods. These limits can be in any of the following three forms:

- (1) numerical limit
- (2) technological limit
- (3) work practice standard

The applicant, Hu Honua Bioenergy, LLC, is proposing limits during startup periods based on a combination of work practice standards and technological limits. Development of normative numerical limits for a biomass boiler located on an isolated electric grid, such as is the case in the island of Hawaii, is not considered practically feasible for the reasons described below.

Unlike electric grids on the mainland, electrical grids on islands such as Hawaii are isolated and not interconnected with any other electricity network. Therefore, the island of Hawaii cannot rely on the flexibility of interconnection with other electrical distribution networks to maintain operating equilibrium between electricity demand and supply (i.e. export or import electricity) to avoid voltage or frequency variations that can lead to electrical system interruptions. Moreover, the electrical grid on the island of Hawaii also has a disproportionately large volume of electricity supply from intermittent renewable sources which are by definition and operation unpredictable, but which still have a high priority on the grid. The variability in the supply from intermittent renewable sources adds to the challenge of maintaining electrical system demand/supply equilibrium and providing reliable and stable electricity service to customers. Electric generating facilities such as Hu Honua Bioenergy must be prepared to respond and react quickly to changes in electrical system conditions to compensate for the electrical grid's limited flexibility and the unpredictable intermittent renewable electricity supply, including during startup.

This plant utilizes a steam boiler, and a steam boiler requires up to 8 hours for startup. Thus, the boiler's startup profile can vary from one session to another due to the plant's need to respond and react during startup to the electrical system's independent operations while it is adjusting to maintain reliable and stable service to customers. The unpredictable startup profile means Hu Honua Bioenergy will not necessarily know in advance the startup parameters, including how quickly it will need to ramp up. This is particularly challenging for an electric generation facility that uses a boiler, which generally cannot react as quickly as other types of energy generating systems (e.g. combustion turbine). In contrast, larger and more diverse interconnected electrical distribution systems, such as on the mainland, have the ability to create normative, repeatable startup profiles for their sources of electricity supply.

Therefore, instead of a numerical emission limits during startup, the applicant has proposed a robust work practice standard that also incorporates technological limits. In particular, the following additional limits are proposed for startup:

- Until the air pollution control equipment are operating per manufacturer's specs, the boiler will only burn B-100 biodiesel, which is expected to generate fewer CO and NO<sub>x</sub> emissions compared to burning wood.
- When the boiler superheater reaches 750°F, biomass wood can be introduced and burned in the boiler.
- The period that only biomass wood is burned in the boiler can last not more than 3 hours during startup.

This work practice standard will minimize emissions during startup by using a cleaner burning fuel (biodiesel) until the air pollution control equipment is operating per manufacturer's

specifications. Only after the air pollution control equipment is operating per manufacturer's specifications can biomass wood be introduced to the boiler, and the permit conditions would limit the time where only wood can be burned during start up (see Attachment II, Special Condition No. D.1.d for the specific permit language). Per Hawaii Administrative Rules §11-60.1-5, the Department is imposing more restrictive conditions in this covered source permit to further limit the air pollutants and operation of the source.

#### **Permit Amendment to CSP No. 0724-01-C**

Items nos. 1 and 2: The permit amendment incorporates additional requirements by including the boiler's emissions during periods of malfunction or upset conditions and the emergency biodiesel engine generator's emissions when calculating the total emissions of CO, NO<sub>x</sub>, and HAPs.

Items nos. 3 and 4: The permit amendment includes the methodology for calculating the total emissions of CO, NO<sub>x</sub>, and HAPs for recordkeeping and reporting purposes.

Items nos. 5 and 6: The permit amendment incorporates additional requirements by including the boiler's emissions during periods of malfunction or upset conditions and the emergency biodiesel engine generator's emissions when calculating the total emissions of CO, NO<sub>x</sub>, and HAPs for reporting purposes.

Items nos. 7 and 8: The permit amendment adds chlorine as an additional HAP to be tested for in the performance tests for the boiler. Tests for chlorine should also be conducted since chlorine may also be present in addition to HCl when burning wood in the boiler.

Item no. 9: The permit amendment adds the methodology for calculating the boiler's heat input when firing biodiesel.

Items no. 10: The permit amendment includes the requirement for supporting documentation and calculations when calculating the total emissions of CO, NO<sub>x</sub>, and HAPs for reporting purposes.

Items nos. 11 and 12: The permit amendment increases the limitation of biodiesel fuel during the boiler's startup and clarifies the definition of startup.

Item no. 13: The permit amendment revises Attachment II-INSIG as indicated to include special conditions for the 836 kW emergency biodiesel engine generator such as fuel restrictions and the installation of a non-resetting hour meter.

Item no. 14: The permit amendment revises the *Annual Emissions Report Form: Fuel and Production* as indicated to include Table 2, which reports on the quantity of fuel used by the 836 kW emergency biodiesel engine generator.

Item no. 15: The permit amendment revises the *Monitoring Report Form: Boiler Fuel, ESP and Baghouse, Emission Caps* as indicated to include a notation that "Facility emissions shall include emissions during periods of boiler startups, shutdowns, and malfunction or upset conditions; and emissions from the 836 kW emergency biodiesel engine generator" for Table 5 – CO and NO<sub>x</sub> Facility Emissions and Table 6 – HAPs Facility Emissions.

Item no. 16: The Department will be adding the following table to the permit review summary (permit record) to show a potential reduction of annual emissions assuming the boiler burns up to the new biodiesel fuel limit during startup in Attachment II, Special Condition No. D.1.c.i.

#### Revised Potential Emissions – Criteria Pollutants

Pollutant	Boiler Peak Load (Biomass Only) (tons/yr)	Boiler Startup (100% Biodiesel) (tons/yr)	Total Annual Emissions (tons/yr)
NO <sub>x</sub>	209.9	0.09	209.9660
CO	246.3	0.046	246.2997
SO <sub>2</sub>	39.2	0.00131	39.1781
PM	33.6	0.001659	33.5818
PM <sub>10</sub>	33.6	0.001659	33.5818
PM <sub>2.5</sub>	33.6	0.001659	33.5818
VOC	39.2	0.006	39.1826

Above calculations are based on the following:

Annual Boiler Heat Input During Normal Operations = 2,798,341 MMBtu/yr

Biodiesel HHV = 0.019 MMBtu/lb

Biodiesel Density = 7.34 lb/gallon

Sulfur Content of Biodiesel = 15 ppm

Startup Fuel Usage (Biodiesel) = 11,880 gallons/yr

Startup Firing Rate = 11,880 gallons/yr x 0.019 MMBtu/lb x 7.34 lb/gallon = 1,659 MMBtu/yr

The following permit conditions and forms in the covered source permit were modified or added. As is custom when modifying regulatory language, new language is underlined, while [deleted language is shown in brackets].

1. Attachment II, Special Condition No. C.6:

6. The CO and NO<sub>x</sub> emissions from the facility, including during periods of boiler startups, [and] shutdowns, and malfunction or upset conditions, shall not equal or exceed 250 tons per year, on any rolling twelve-month (12-month) period. CO and NO<sub>x</sub> emissions from the 836 kW emergency biodiesel engine generator shall also be included in the CO and NO<sub>x</sub> emissions from the facility.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

2. Attachment II, Special Condition No. C.7:

7. The total of all HAPs emissions and any individual HAP emissions from the facility, including during periods of boiler startups, [and] shutdowns, and malfunction or upset conditions, shall not equal or exceed 25 tons per year and 10 tons per year, respectively, on any rolling twelve-month (12-month) period. HAPs emissions from the 836 kW emergency biodiesel engine generator shall also be included in the HAPs emissions from the facility.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

3. Attachment II, Special Condition No. E.14:

14. The permittee shall calculate and record the CO and NO<sub>x</sub> emissions from the facility, including during periods of boiler startups, [and] shutdowns, and malfunction or upset conditions, on a monthly and rolling twelve-month (12-month) basis to demonstrate compliance with Attachment II, Special Condition No. C.6. CO and NO<sub>x</sub> emissions from the 836 kW emergency biodiesel engine generator shall also be included in the CO and NO<sub>x</sub> emissions from the facility.

a. The permittee shall use data from the boiler's CO and NO<sub>x</sub> CEMS required by Attachment II, Special Conditions Nos. E.8 and E.9, using the following procedures:

i. The permittee shall use the data conversion procedures for SO<sub>2</sub> in 40 CFR Part 75, Appendix F, modified to account for the difference in molecular weight between CO and SO<sub>2</sub>, and the missing data substitution procedures for SO<sub>2</sub> in 40 CFR Part 75, Subpart D, modified to account for the difference in molecular weight between CO and SO<sub>2</sub>, to determine the hourly mass emission rate of CO from the boiler during all boiler operating hours.

ii. The permittee shall use the data conversion procedures in 40 CFR Part 75, Appendix F and the missing data substitution procedures for NO<sub>x</sub> in 40 CFR Part 75, Subpart D, to determine the hourly mass emission rate of NO<sub>x</sub> from the boiler during all boiler operating hours;

b. The 836 kW emergency biodiesel engine generator's CO and NO<sub>x</sub> emissions shall be calculated using the following equation:

$$\text{Emission factor (lb/MMBtu) x Higher Heating Value (MMBtu/gallon) x Fuel Consumption (gallons/rolling 12-month period)}$$

The CO and NO<sub>x</sub> emission factors shall be based on data from the manufacturer, AP-42, or other data with prior written approval by the Department of Health. The biodiesel HHV shall be from the facility's biodiesel vendor, or other data with prior written approval by the Department of Health. The fuel consumption of biodiesel (gallons/rolling 12-month period) shall be based on the hour meter reading (hours/rolling 12-month period) and fuel consumption rate (gallons/hour) at the maximum load as specified by the manufacturer.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

4. Attachment II, Special Condition No. E.15:

15. The permittee shall calculate and record the total of all HAPs emissions and all individual HAP emissions as identified in AP-42 from the facility, including during periods of boiler startups, [and] shutdowns, and malfunction or upset conditions, on a monthly and rolling twelve-month (12-month) basis to demonstrate compliance with Attachment II, Special Condition No. C.7. HAPs emissions from the 836 kW emergency biodiesel engine generator shall also be included in the HAPs emissions from the facility.

- a. The permittee shall use data from the boiler's HCl CEMS required by Attachment II, Special Conditions No. E.7. The permittee shall use the data conversion procedures for SO<sub>2</sub> in 40 CFR Part 75, Appendix F, modified to account for the difference in molecular weight between HCl and SO<sub>2</sub>, and the missing data substitution procedures for SO<sub>2</sub> in 40 CFR Part 75, Subpart D, modified to account for the difference in molecular weight between HCl and SO<sub>2</sub>, to determine the hourly mass emission rate of HCl from the boiler during all boiler operating hours.
- b. The permittee shall use data from the boiler's source performance test for chlorine, acetaldehyde, acrolein, benzene, dichloromethane, formaldehyde, manganese, naphthalene, styrene, and toluene to calculate HAPs emissions. All other HAPs emissions as identified in AP-42 for the boiler shall be calculated using data from the sources listed in Appendix C of Hu Honua's December 2010 application or other data with prior written approval by the Department of Health.
- c. The boiler's HAPs emissions (not including HCL) shall be calculated based on the following:
- i. When using source performance test results, Section 4.3 of US EPA's Emission Inventory Improvement Program (EIIP), Volume 2, Chapter 2, "Preferred and Alternative Methods for Estimating Air Emissions from Boilers" (January 2001).
  - ii. When using source performance test results, the F factor (Fd) required in Section 4.1 and 4.3 for burning wood shall be derived using Equation 2.4-3 of the EIIP document. The high heating value (HHV) and hydrogen, carbon, sulfur, nitrogen, and oxygen content for the wood needed for this equation shall be derived from the wood sampling conducted per Attachment II, Special Condition No. E.2.c.iii.
  - iii. HAP emission estimates not from CEMS or source performance test results shall follow the approach contained in Section 5 of US EPA's Emission Inventory Improvement Program (EIIP), Volume 2, Chapter 2, "Preferred and Alternative Methods for Estimating Air Emissions from Boilers" (January 2001). The emission factors shall be based on data sources listed in Appendix C on Hu Honua's December 2010 application or other data with prior written approval by the Department of Health. The wood HHV shall be derived from the wood sampling conducted per Attachment II, Special Condition No. E.2.c.iii. The biodiesel HHV shall be from the facility's biodiesel vendor, or other data with prior written approval by the Department of Health.
  - iv. Good engineering practices shall be used to estimate HAPs emissions during malfunctions, or other methods with prior written approval by the Department of Health.
- d. The following equation shall be used to calculate the boiler's HAPs emissions where CEMS or source performance test data is not available:

Emission factor (lb/MMBtu) x Higher Heating Value (MMBtu/lbs of wood or MMBtu/gallons of biodiesel) x Fuel Consumption (lbs of wood/rolling 12-month period or gallons of biodiesel/rolling 12-month period)

The wood HHV shall be from the wood sampling and analysis conducted per Attachment II, Special Condition No. E.2.c.iii for wood fuel. The biodiesel HHV shall be from the facility's biodiesel vendor, or other data with prior written approval by the Department of Health.

- e. The following equation shall be used to calculate the 836 kW biodiesel emergency generator's HAPs emissions:

$$\frac{\text{Emission factor (lb/MMBtu)} \times \text{Higher Heating Value (MMBtu/gallon)} \times \text{Fuel Consumption (gallons/rolling 12-month period)}}{}$$

Emission factors for HAPs shall be from one or more of the following sources:

- i. AP-42 data; and
- ii. Other data with prior written approval by the Department of Health.

The biodiesel HHV shall be from the facility's biodiesel vendor, or other data with prior written approval by the Department of Health. The fuel consumption of biodiesel (gallons/rolling 12-month period) shall be based on the hour meter reading (hours/rolling 12-month period) and fuel consumption rate (gallons/hour) at the maximum load as specified by the manufacturer.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

5. Attachment II, Special Condition No. F.6.a.vi:

- vi. The CO and NO<sub>x</sub> emissions from the facility on a monthly and rolling twelve-month (12-month) basis to demonstrate compliance with Attachment II, Special Condition No. C.6. Facility emissions shall include emissions during periods of boiler startups, shutdowns, and malfunction or upset conditions; and emissions from the 836 kW emergency biodiesel engine generator; [and]

6. Attachment II, Special Condition No. F.6.a.vii:

- vii. The total of all HAPs emissions and the largest individual HAP emissions from the facility on a monthly and rolling twelve-month (12-month) basis to demonstrate compliance with Attachment II, Special Condition No. C.7. Facility emissions shall include emissions during periods of boiler startups, shutdowns, and malfunction or upset conditions; and emissions from the 836 kW emergency biodiesel engine generator; and

7. Attachment II, Special Condition No. G.1.c:

- c. Chlorine, Acetaldehyde, Acrolein, Benzene, Dichloromethane, Formaldehyde, Manganese, Naphthalene, Styrene, and Toluene Emissions
  - i. Within **sixty (60) days** after achieving the maximum production rate of the boiler, but not later than **one hundred eighty (180) days** after initial start-up of the boiler, and **annually** thereafter, the permittee shall conduct, or cause to be conducted, performance tests on the boiler to determine the emission rates of Chlorine, Acetaldehyde, Acrolein, Benzene, Dichloromethane, Formaldehyde,

Manganese, Naphthalene, Styrene, and Toluene Emissions in lb/MMBtu and lb/hr. The source test for Chlorine, Acetaldehyde, Acrolein, Benzene, Dichloromethane, Formaldehyde, Manganese, Naphthalene, Styrene, and Toluene emissions shall be performed with the boiler firing wood fuel.

- ii. The permittee shall not conduct performance tests during periods of startup, shutdown, or malfunction.
- iii. The annual performance test may be waived for up to two (2) consecutive years if the last test results show a compliance margin of at least ten (10) percent of assumed emission factor in the permit review summary.

(Auth.: HAR §11-60.1-173)

8. Attachment II, Special Condition No. G.2:

2. Boiler Test Methods

Performance tests for CO, NO<sub>x</sub>, SO<sub>2</sub>, VOC, PM/PM<sub>10</sub>, HCl, opacity of visible emissions, NH<sub>3</sub>, Chlorine, Acetaldehyde, Acrolein, Benzene, Dichloromethane, Formaldehyde, Manganese, Naphthalene, Styrene, and Toluene shall be conducted and the results reported in accordance with test methods set forth in 40 CFR §60.8, 40 CFR Part 60, Appendix A, 40 CFR Part 63, Appendix A, and 40 CFR Part 51, Appendix M. The performance tests shall be conducted at the maximum expected capacity of the boiler. The following test methods or U.S. EPA approved equivalent methods or other methods with prior written approval by the Department of Health shall be used:

- a. Performance tests for CO emissions shall be conducted using EPA Methods 1-4, 10 and 19;
- b. Performance tests for NO<sub>x</sub> emissions shall be conducted using EPA Methods 1-4, 7E and 19;
- c. Performance tests for SO<sub>2</sub> emissions shall be conducted using EPA Methods 1-4, and 6 or 6c;
- d. Performance tests for VOC emissions shall be conducted using EPA Methods 1-4 and 25;
- e. Performance tests for PM/PM<sub>10</sub> emissions shall be conducted as provided under Attachment II, Special Condition No. G.3;
- f. Performance tests for HCl and Chlorine emissions shall be conducted using EPA Methods 1-4 and Method 26 or 26A;
- g. During the initial performance test, compliance with the opacity standard of Attachment II, Special Condition No. C.4, shall be determined in accordance with 40 CFR §60.46b(d)(7) and §63.11224(e)(2). The permittee shall record COMS data produced during the initial performance test and shall furnish the Department of Health a written report of the monitoring results along with the Method 9 and 40 CFR §60.8 and §63.7 performance test results;
- h. During the annual performance tests, compliance with the opacity standard of Attachment II, Special Condition No. C.4 shall be determined with COMS data collection in accordance with 40 CFR §60.11(e)(5);
- i. Performance tests for NH<sub>3</sub> emissions shall be conducted using EPA Conditional Test Method 027 (CTM-027);
- j. Performance tests for Acetaldehyde, Acrolein, Benzene, Dichloromethane, Formaldehyde, Naphthalene, Styrene, and Toluene shall be conducted using EPA Method 320;



- k. Performance test for Manganese shall be conducted using EPA Method 29; and
- l. The performance tests shall consist of three (3) separate runs for each pollutant using the applicable test method. For the purpose of determining compliance with an applicable regulation, the arithmetic mean of the results from the three (3) runs shall apply.

(Auth.: HAR §11-60.1-3, §11-60.1-11, §11-60.1-90; §11-60.1-161, §11-60.1-173, 40 CFR Part 60 Appendix A, §60.8, §60.46b, §63.7, §63.11224(e)(2))<sup>1</sup>

9. Added Attachment II, Special Condition No. E.2.d.iii:

- iii. Compliance with the boiler's total heat input limits specified in Attachment II, Special Condition No. D.1.a.iii when firing biodiesel shall be calculated using the following equation:

Higher Heating Value (MMBtu/gallon) x Fuel Consumption (gallons/rolling 12-month period)

10. Added Attachment II, Special Condition No. F.6.a.viii:

- viii. Supporting documents (i.e., source of emission factors and copies of the source documents) and calculations showing the basis of the emissions for Attachment II, Special Condition Nos. F.6.a.vi and F.6.a.vii.

11. Attachment II, Special Condition No. D.1.c.i:

- i. Biodiesel (S15) usage during startup shall not exceed a maximum of 11,880 [3,300] gallons per any rolling twelve-month (12-month) period.

12. Attachment II, Special Condition No. D.1.d:

d. Boiler Startup and Shutdown

- i. The definition of startup shall be as defined in 40 CFR Part 63, Subpart JJJJJJ. [Each startup shall not exceed three (3) hours.]
- ii. During startup, only biodiesel (S15) shall be used prior to the operating temperature of the superheater reaching 750 °F. When the superheater reaches 750 °F, operation of the air pollution control equipment shall commence. Wood can only be burned during startup after all the air pollution control equipment is operating according to the manufacturer's specifications. [Minimize startup and shutdown periods per manufacturer's recommendation.]
- iii. The period when only wood is burned during startup shall not exceed three (3) hours.
- iv. The permittee shall minimize startup and shutdown periods per the manufacturer's recommended procedures.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90, 40 CFR §63.11214)<sup>1</sup>

**ATTACHMENT II - INSIG  
SPECIAL CONDITIONS - INSIGNIFICANT ACTIVITIES  
COVERED SOURCE PERMIT NO. 0724-01-C**

**Amended Date:**

**Expiration Date: August 30, 2016**

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

**Section A. Equipment Description**

This attachment encompasses insignificant activities listed in HAR, §11-60.1-82(f) and (g) for which provisions of this permit and HAR, Subchapter 2, General Prohibitions, apply, including the following:

One (1) 836 kW emergency biodiesel engine generator, Detroit Diesel, 12V-2000 G60.

(Auth.: HAR §11-60.1-3)

**Section B. Operational Limitations**

1. The 836 kW emergency biodiesel engine generator shall only be fired on biodiesel (S15).

2 [1].The permittee shall take measures to operate applicable insignificant activities in accordance with the provisions of HAR, Subchapter 2 for visible emissions, fugitive dust, incineration, process industries, sulfur oxides from fuel combustion, storage of volatile organic compounds, volatile organic compound water separation, pump and compressor requirements, and waste gas disposal.

(Auth.: HAR §11-60.1-3, §11-60.1-82, §11-60.1-90)

3 [2].The Department of Health may at any time require the permittee to further abate emissions if an inspection indicates poor or insufficient controls.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-82, §11-60.1-90)

**Section C. Monitoring and Recordkeeping Requirements**

1. The permittee shall install, operate and maintain a non-resetting hour meter on the 836 kW emergency biodiesel engine generator for the continuous and permanent recording of the total hours of operation of the engines for the purpose of showing compliance with Attachment II, Special Condition Nos. C.6 and C.7.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

2. The non-resetting meter shall not allow the manual resetting or other manual adjustments of the meter readings. The installation of any new non-resetting meters or the replacement of any existing non-resetting meters shall be designed to accommodate a minimum of five

(5) years of equipment operation, considering any operational limitations, before the meter returns to a zero reading.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

3. The permittee shall keep records of the total hours of operation of the 836 kW emergency biodiesel engine generator on a monthly and rolling 12-month basis to demonstrate compliance with Attachment II, Special Condition Nos. C.6 and C.7. Monthly records shall include:

- i. Date of meter reading;
- ii. Meter reading at the beginning of each month;
- iii. Total hours of operation for each month; and
- iv. Total hours of operation on a rolling 12-month basis.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

- 4 [1]. The Department of Health reserves the right to require monitoring, recordkeeping, or testing of any insignificant activity to determine compliance with the applicable requirements.

(Auth.: HAR §11-60.1-3, §11-60.1-90)

- 5 [2]. All records shall be maintained for at least five (5) years from the date of any required monitoring, recordkeeping, testing, or reporting. These records shall be true, accurate, and maintained in a permanent form suitable for inspection and made available to the Department of Health or its authorized representative upon request.

(Auth.: HAR §11-60.1-3, §11-60.1-11, §11-60.1-90)

#### **Section D. Notification and Reporting**

##### Compliance Certification

During the permit term, the permittee shall submit at least **annually** to the Department of Health and U.S. EPA, Region 9, the attached **Compliance Certification Form** pursuant to HAR, Subsection 11-60.1-86. The permittee shall indicate whether or not compliance is being met with each term or condition of this permit. The compliance certification shall include, at a minimum, the following information:

- 1. The identification of each term or condition of the permit that is the basis of the certification;
- 2. The compliance status;
- 3. Whether compliance was continuous or intermittent;

4. The methods used for determining the compliance status of the source currently and over the reporting period;
5. Any additional information indicating the source's compliance status with any applicable enhanced monitoring and compliance certification including the requirements of Section 114(a)(3) of the Clean Air Act or any applicable monitoring and analysis provisions of Section 504(b) of the Clean Air Act; and
6. Any additional information as required by the Department of Health including information to determine compliance.

The compliance certification shall be submitted within **sixty (60) days** after the end of each calendar year, and shall be signed and dated by a responsible official.

Upon written request of the permittee, the deadline for submitting the compliance certification may be extended, if the Department of Health determines that reasonable justification exists for the extension.

In lieu of addressing each emission unit as specified in *Compliance Certification Form*, the permittee may address insignificant activities as a single unit provided compliance is met with all applicable requirements. If compliance is not totally attained, the permittee shall identify the specific insignificant activity and provide the details associated with the noncompliance.

(Auth.: HAR §11-60.1-4, §11-60.1-86, §11-60.1-90)

#### **Section E. Agency Notification**

Any document (including reports) required to be submitted by this Covered Source Permit shall be done in accordance with Attachment I, Standard Condition No. 28.

(Auth.: HAR §11-60.1-4, §11-60.1-90)

**ANNUAL EMISSIONS REPORT FORM: FUEL AND PRODUCTION  
COVERED SOURCE PERMIT NO. 0724-01-C**

**Amended Date:** \_\_\_\_\_

**Expiration Date:** August 30, 2016

In accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, the permittee shall report to the Department of Health the nature and amounts of emissions.

(Make Copies for Future Use)

For Period: \_\_\_\_\_ Date: \_\_\_\_\_

Facility: \_\_\_\_\_

**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.**

Responsible Official (print): \_\_\_\_\_ Title: \_\_\_\_\_

Responsible Official (signature): \_\_\_\_\_

**Fuel Usage and Annual Capacity Factor:** In Table 1, report on the quantity of each fuel used by the boiler and on the annual capacity factor for wood fuel.

Table 1: Boiler Fuel Usage and Annual Capacity Factor		
Fuel	Annual Usage	Annual Capacity Factor
Wood	(tons)	
Biodiesel (S15)	(gallons)	N/A

**Fuel Usage:** In Table 2, report on the quantity of fuel used by the 836 kW emergency biodiesel engine generator.

Table 2: 836 kW Emergency Biodiesel Engine Generator	
<u>Fuel</u>	<u>Annual Usage</u>
<u>Biodiesel (S15)</u>	<u>(gallons)</u>

**MONITORING REPORT FORM: BOILER FUEL, ESP AND BAGHOUSE,  
EMISSION CAPS  
COVERED SOURCE PERMIT NO. 0724-01-C  
(PAGE 1 OF 5)**

**Amended Date:** \_\_\_\_\_

**Expiration Date:** August 30, 2016

In accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, the permittee shall report to the Department of Health the following information, semi-annually.

(Make Copies for Future Use)

For Period: \_\_\_\_\_ Date: \_\_\_\_\_

Facility: \_\_\_\_\_

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.

Responsible Official (Print): \_\_\_\_\_ Title: \_\_\_\_\_

Responsible Official (Signature): \_\_\_\_\_

**Biodiesel (S15) Fuel Usage During Startup:**

Table 1: Biodiesel Usage		
Month	Monthly Basis (gallons)	Rolling 12-Mo. Basis (gallons)
January		
February		
March		
April		
May		
June		
July		
August		
September		
October		
November		
December		

**MONITORING REPORT FORM: BOILER FUEL, ESP AND BAGHOUSE,  
EMISSION CAPS  
COVERED SOURCE PERMIT NO. 0724-01-C  
(PAGE 2 OF 5)**

**Amended Date:**

**Expiration Date: August 30, 2016**

**Treated Wood:** In Table 2, report on any instances where treated wood was fired in the boiler during the reporting period. Include instances where wood fired was painted or chemically treated. If no such incidents occurred, state so below.

Table 2: Treated Wood Fuel		
Date	Type of Treated Wood	Quantity Fired

Table 3: ESP Operating Voltage Below Normal			
Date	Start Time	End Time	Corrective Action Taken

Table 4: Baghouse Pressure Drop Above Normal			
Date	Start Time	End Time	Corrective Action Taken

**MONITORING REPORT FORM: BOILER FUEL, ESP AND BAGHOUSE,  
EMISSION CAPS  
COVERED SOURCE PERMIT NO. 0724-01-C  
(PAGE 3 OF 5)**

**Amended Date:**

**Expiration Date: August 30, 2016**

**Biodiesel (S15) and Wood Heat Input:**

Table 5: Biodiesel and Wood Heat Input				
Month	Biodiesel Heat Input, Monthly Basis (MMBtu)	Wood Heat Input, Monthly Basis (MMBtu)	Total Biodiesel and Wood Heat Input, Monthly Basis (MMBtu)	Total Biodiesel and Wood Heat Input, Rolling 12-Mo. Basis (MMBtu)
January				
February				
March				
April				
May				
June				
July				
August				
September				
October				
November				
December				



**MONITORING REPORT FORM: BOILER FUEL, ESP AND BAGHOUSE,  
EMISSION CAPS  
COVERED SOURCE PERMIT NO. 0724-01-C  
(PAGE 4 OF 5)**

**Amended Date:**

**Expiration Date: August 30, 2016**

**CO and NO<sub>x</sub> Facility Emissions:**

Facility emissions shall include emissions during periods of boiler startups, shutdowns, and malfunction or upset conditions; and emissions from the 836 kW emergency biodiesel engine generator.

Table 5: <u>CO and NO<sub>x</sub> Emissions</u>				
Month	CO Emissions, Monthly Basis (tpy)	CO Emissions, Rolling 12-Mo. Basis (tpy)	NO <sub>x</sub> Emissions, Monthly Basis (tpy)	NO <sub>x</sub> Emissions, Rolling 12-Mo. Basis (tpy)
January				
February				
March				
April				
May				
June				
July				
August				
September				
October				
November				
December				

**MONITORING REPORT FORM: BOILER FUEL, ESP AND BAGHOUSE,  
EMISSION CAPS  
COVERED SOURCE PERMIT NO. 0724-01-C  
(PAGE 5 OF 5)**

**Amended Date:**

**Expiration Date: August 30, 2016**

**HAPs Facility Emissions:**

Facility emissions shall include emissions during periods of boiler startups, shutdowns, and malfunction or upset conditions; and emissions from the 836 kW emergency biodiesel engine generator.

Table 6: <u>HAPs Emissions</u>				
Month	Total HAPs Emissions, Monthly Basis (tpy)	Total HAPs Emissions, Rolling 12-Mo. Basis (tpy)	Largest Individual HAP Emissions, Monthly Basis (tpy)	Largest Individual HAP Emissions, Rolling 12-Mo. Basis (tpy)
January				
February				
March				
April				
May				
June				
July				
August				
September				
October				
November				
December				

Largest Individual HAP \_\_\_\_\_