

DAVID Y. IGE  
GOVERNOR OF HAWAII



ELIZABETH A. CHAR, M.D.  
DIRECTOR OF HEALTH

**CERTIFIED MAIL**  
**RETURN RECEIPT REQUESTED**  
(7019 2280 0000 3440 6026)

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

In reply, please refer to:  
File:

20-439E CAB  
File No. 0087

October 27, 2020

Mr. Steven Barnoski  
Plant Manager  
AES Hawaii, LLC  
91-086 Kaomi Loop  
Kapolei, Hawaii 96707-1883

Dear Mr. Barnoski:

**SUBJECT: Amendment of Covered Source Permit (CSP) No. 0087-02-C  
Application for Significant Modification No. 0087-09  
AES Hawaii, LLC  
203 MW Coal-Fired Cogeneration Plant  
Located At: 91-086 Kaomi Loop, Kapolei, Oahu  
Date of Expiration: April 15, 2019 (Expiration Date to be Revised Upon Permit Renewal)**

In accordance with Hawaii Administrative Rules (HAR), Chapter 11-60.1, and pursuant to your application for a significant permit modification received on March 28, 2018, significant permit modification application update received on July 30, 2019, greenhouse gas (GHG) emission reduction plan received on December 1, 2016, March 5, 2018, October 30, 2018, and July 30, 2019, and the additional information on January 23, 2020, February 14, 2020, April 2, 2020, May 22, 2020, and June 9, 2020, from Hawaiian Electric, submitted on behalf of the partnership for cap adjustments, the Department of Health, Clean Air Branch (herein after referred to as Department), amends CSP No. 0087-02-C issued to AES Hawaii, LLC, on April 16, 2014, and amended on June 23, 2014.

In accordance with HAR, Chapter 11-60.1, Subchapter 11, the amendment incorporates provisions for partnering the AES Hawaii, LLC, cogeneration plant with other affected plants to combine emissions for flexibility in achieving GHG reductions. The amendment includes GHG emission cap adjustments for 2019 and a total combined GHG emission cap for 2020 and beyond that is a sixteen percent (16%) reduction from the combined partnership baseline GHG emissions level. The amendment also includes alternate operating scenarios for partnering facilities on the island of Hawaii in the event delays are encountered in restoring the Puna Geothermal Venture (PGV) facility to the net generation that preceded its shutdown in 2018. Individual and total combined GHG emission caps established in each facility's GHG emission reduction plan are incorporated in the amendment with associated provisions pursuant to HAR §11-60.1-204(d)(6)(C). The partnering facilities included in this amendment are:

Independent Power Producers (IPPs)

- AES Hawaii, LLC (AES), CSP No. 0087-02-C
- Hamakua Energy, LLC (Hamakua Energy), CSP No. 0243-01-C
- Kalaeloa Partners, L.P. (KPLP), CSP No. 0214-01-C

Hawaiian Electric Companies

- Hawaiian Electric Company, Inc. (Hawaiian Electric), CSP No. 0548-01-C
- Hawaiian Electric Company, Inc. (Hawaiian Electric), CSP No. 0238-01-C
- Hawaiian Electric Company, Inc. (Hawaiian Electric), CSP No. 0239-01-C
- Hawaiian Electric Company, Inc. (Hawaiian Electric), CSP No. 0240-01-C
- Hawaii Electric Light Company, Inc. (Hawaii Electric Light), CSP No. 0007-01-C
- Hawaii Electric Light Company, Inc. (Hawaii Electric Light), CSP No. 0234-01-C
- Hawaii Electric Light Company, Inc. (Hawaii Electric Light), CSP No. 0235-01-C
- Maui Electric Company, Ltd. (Maui Electric), CSP No. 0031-04-C
- Maui Electric Company, Ltd. (Maui Electric), CSP No. 0067-01-C
- Maui Electric Company, Ltd. (Maui Electric), CSP No. 0232-01-C

The three (3) IPP permits and CSP No. 0548-01-C (Hawaiian Electric Campbell Industrial Park (CIP) Generating Station) will specify individual and total combined GHG emission caps established for all of the partnering facilities. Any GHG emission cap revision, except for reasonably anticipated alternate operating scenarios due to the PGV facility shutdown, will require each of these facilities (AES, Hamakua Energy, KPLP, and Hawaiian Electric CIP) to submit a significant permit modification.

The permits for the remaining partnering facilities operated by Hawaiian Electric, Hawaii Electric Light, and Maui Electric will not specify individual and total combined GHG emission caps, but will reference GHG emission caps included in CSP No. 0548-01-C. Designating CSP No. 0548-01-C as the main Hawaiian Electric permit will reduce the burden of modifying all Hawaiian Electric Companies' permits should an emission cap be revised. Only CSP No. 0548-01-C would require modification as the emission caps will not be incorporated separately into each facility's permit.

In addition to these changes, the Department is amending CSP No. 0087-02-C to comply with Act 023 (September 15, 2020) (to be codified as Hawaii Revised Statutes (HRS) Section 342B-) of the 30<sup>th</sup> Hawaii State Legislature, 2020. The Department is superseding Attachment IIA, Special Condition Nos. C.1 and 2, and adding Special Condition Nos. C.11 and E.7 to incorporate the provisions found in Act 023, Section 3, for the cessation of coal burning.

CSP No. 0087-02-C issued on April 16, 2014, and amended on June 23, 2014, is amended as follows:

1) Added Attachment and Form:

- a) Attachment II - GHG: Special Conditions – GHG Reduction Requirements; and
- b) Monitoring Report Form: GHG Emissions.

2) Superseded Attachments:

- a) Attachment III: Annual Fee Requirements; and
- b) Attachment IV: Annual Emissions Reporting Requirements.

3) Superseded Conditions:

a) Attachment I: Standard Condition No. 28:

28. Any document (including reports) required to be submitted by this permit shall be certified as being true, accurate, and complete by a responsible official in accordance with HAR, Sections 11-60.1-1 and 11-60.1-4, and shall be mailed to the following address:

State of Hawaii  
Clean Air Branch  
2827 Waimano Home Road, #130  
Pearl City, HI 96782

Upon request and as required by this permit, all correspondence to the State of Hawaii Department of Health associated with this CSP shall have duplicate copies forwarded to:

Manager  
Enforcement Division, Air Section  
U.S. Environment Protection Agency, Region 9  
75 Hawthorne Street, ENF-2-1  
San Francisco, CA 94105

b) Attachment IIA: Special Condition Nos. C.1 and 2:

1. Except as specified in Attachment IIA, Special Condition No. C.11, the CFB boilers (boilers) shall be fired primarily on coal. In the event that the emissions of sulfur dioxide (SO<sub>2</sub>) exceed 645.0 lb/hr, 1.2 lb/MMBtu, or forty-eight (48) parts per million by volume dry (ppmvd), at fifteen percent (15%) O<sub>2</sub> while firing coal with a sulfur content in excess of 1.5 percent by weight, the permittee shall immediately take steps to limit the feed rate of coal until such time as the process returns to compliance with the SO<sub>2</sub> permit limits in Attachment IIA, Special Condition No. C.10. During hot or cold startups, the boilers may be fired on fuel oil No. 2 with a maximum sulfur content not to exceed 0.5 percent by weight.

(Auth.: HAR §11-60.1-5, §11-60.1-38, §11-60.1-90)

2. Wood Fuel
- a. Except as specified in Attachment IIA, Special Condition No. C.11, the boilers may also be fired on a mixture of coal and wood fuel such that the combined feed rate does not exceed 233,000 lb/hr (116.5 tons/hr).
  - b. The maximum amount of wood fuel fired into the boilers shall not exceed twenty (20) tons/hr and 175,200 tons per any rolling twelve-month (12-month) period.
  - c. The maximum heat input from wood fuel firing shall not exceed 215 MMBtu/hr and 1,883,400 MMBtu per any rolling twelve-month (12-month) period.

- d. All wood fuel, including wood processed into pellets which may utilize a polyethylene binder, fired by the boilers shall be untreated and uncontaminated by paint, glues, preservatives, oils, added chemicals, or similar foreign substances. Use of construction demolition debris of any type as wood fuel is explicitly prohibited.
- e. Wood fuel shall consist of chips or pellets of uncontaminated whole tree wood, including stumps, branches, bark, chips, and sawdust.

4) Added State-Only Enforceable Condition:

a) Attachment IIA: Special Condition No. C.11

11. Cessation of Coal Burning

In accordance with Act 023 (September 15, 2020) (to be codified as HRS, Section 342B-) of the 30<sup>th</sup> Hawaii State Legislature, 2020, all coal burning or consumption of coal to generate electricity shall cease on December 31, 2022.

b) Attachment IIA: Special Condition No. E.7

7. Cessation of Coal Burning Notification

Within thirty (30) days of December 31, 2022, the permittee shall submit written notification to the Department on the status of permittee's compliance with Attachment IIA, Special Condition No. C.11, including the date of compliance.

(Auth: HAR §11-60.1-90, Act 023 (September 15, 2020) (to be codified as HRS, Section 342B-), 30<sup>th</sup> Hawaii State Legislature, 2020, Governor's Message No. 1128, 9/15/2020)

All other permit conditions of CSP No. 0087-02-C issued on April 16, 2014, and amended on June 23, 2014, shall not be affected and shall remain valid.

If there are any questions regarding these matters, please contact Mr. Michael Madsen of the Clean Air Branch at (808) 586-4200.

Sincerely,



MARIANNE ROSSIO, P.E., ACTING CHIEF  
Environmental Management Division

MM:tkg

Enclosures

**ATTACHMENT II - GHG: SPECIAL CONDITIONS  
GHG REDUCTION REQUIREMENTS  
COVERED SOURCE PERMIT NO. 0087-02-C**

**Amended Date: October 27, 2020**

**Expiration Date: April 15, 2019**  
(Expiration Date to be Revised Upon Permit Renewal)

In addition to the standard conditions of the CSP, the following state enforceable special conditions shall apply to the permitted facility.

**Section A. Equipment Description**

- Attachment II - GHG of this permit encompasses the following equipment and associated appurtenances:

Equipment	Manufacturer	Capacity
Circulating Fluidized Bed Boiler A with Limestone Injection	Ahlstrom Pyropower Corporation	2,150 MMBtu/hr (see note a)
Circulating Fluidized Bed Boiler B with Limestone Injection	Ahlstrom Pyropower Corporation	
Limestone Dryer 1A	Micro Powder Systems	4.75 MMBtu/hr
Limestone Dryer 1B	Micro Powder Systems	4.75 MMBtu/hr

\*Total combined capacity of Boilers A and B.

(Auth.: HAR §11-60.1-3)

- The equipment is subject to GHG emission reduction requirements of HAR, Chapter 11-60.1, Subchapter 11, and associated permit conditions based on information from the GHG emission reduction plan and permit application for significant modification. The GHG emission reduction plan shall become a part of the CSP application process for renewals and any required modifications pursuant to HAR, Chapter 11-60.1, Subchapter 5. With each subsequent GHG emission reduction plan submittal, the permittee shall report:
  - The GHG emission reduction status;
  - Factors contributing to the emission changes;
  - Any control measure updates; and
  - Any new developments or changes that would affect the basis of the facility-wide GHG emissions cap.

(Auth.: HAR §11-60.1-5, §11-60.1-204(g))

**Section B. GHG Permit Conditions**

- Permit conditions specified in Attachment II – GHG, including provisions to limit maximum potential GHG emissions, are state-only enforceable requirements which are not federally enforceable under the federal Clean Air Act.

(Auth.: HAR §11-60.1-3, §11-60.1-90, 11-60.1-161; 40 CFR §70.6)<sup>1</sup>

2. The permittee shall comply with all applicable provisions of these conditions, including all emission limits, notification, testing, monitoring, and reporting requirements. The major requirements of these provisions are detailed in the special conditions of this attachment.

(Auth.: HAR §11-60.1-3, §11-60.1-90, 11-60.1-161)<sup>1</sup>

**Section C. GHG Emission Limitations**

1. GHG Emission Caps

- a. Each partnering facility shall not emit or cause to be emitted carbon dioxide equivalent (CO<sub>2</sub>e) emissions in excess of the following individual caps, except as specified in Attachment II - GHG, Special Condition No. C.1.c.iv:
- i. For calendar year 2019, each partnering facility shall not exceed the following individual GHG emission caps:

Calendar Year 2019			
Generating Station	CSP Permit No.	CO <sub>2</sub> e Emission Cap <sup>a</sup>	
		Metric Tons per Calendar Year	Short Tons per Calendar Year
AES Hawaii, LLC Cogeneration Plant	0087-02-C	1,534,598	1,691,605
Hamakua Energy, LLC Cogeneration Plant	0243-01-C	227,906	251,223
Kalaeloa Partners, L.P. Cogeneration Plant	0214-01-C	993,198	1,094,813
Hawaiian Electric Campbell Industrial Park Generating Station	0548-01-C	48,752	53,740
Hawaiian Electric Honolulu Generating Station	0238-01-C	0	0
Hawaiian Electric Kahe Generating Station	0240-01-C	1,935,707	2,133,752
Hawaiian Electric Waiiau Generating Station	0239-01-C	733,265	808,286
Hawaii Electric Light Kanoelehua-Hill Generating Station	0234-01-C	171,991	189,588
Hawaii Electric Light Keahole Generating Station	0007-01-C	248,043	273,421
Hawaii Electric Light Puna Generating Station	0235-01-C	64,666	71,282
Maui Electric Kahului Generating Station	0232-01-C	140,281	154,633
Maui Electric Maalaea Generating Station	0067-01-C	417,182	459,864
Maui Electric Palaau Generating Station	0031-04-C	23,999	26,454

<sup>a</sup>Metric Tons = (0.90718474) x (Short Tons).

- ii. For calendar year 2020 and beyond, each partnering facility shall not exceed the following individual GHG emission caps, except as specified in Attachment II – GHG, Special Condition No. C.3:

<b>Calendar Year 2020 and Beyond</b>			
<b>Generating Station</b>	<b>CSP Permit No.</b>	<b>CO<sub>2</sub>e Emission Cap<sup>a</sup></b>	
		<b>Metric Tons per Calendar Year</b>	<b>Short Tons per Calendar Year</b>
AES Hawaii, LLC Cogeneration Plant	0087-02-C	1,281,442	1,412,548
Hamakua Energy, LLC Cogeneration Plant	0243-01-C	139,433	153,699
Kalaeloa Partners, L.P. Cogeneration Plant	0214-01-C	1,056,486	1,164,577
Hawaiian Electric Campbell Industrial Park Generating Station	0548-01-C	112,041	123,504
Hawaiian Electric Honolulu Generating Station	0238-01-C	0	0
Hawaiian Electric Kahe Generating Station	0240-01-C	1,998,996	2,203,516
Hawaiian Electric Waiiau Generating Station	0239-01-C	796,554	878,050
Hawaii Electric Light Kanoelehua-Hill Generating Station	0234-01-C	156,449	172,456
Hawaii Electric Light Keahole Generating Station	0007-01-C	219,727	242,208
Hawaii Electric Light Puna Generating Station	0235-01-C	28,800	31,747
Maui Electric Kahului Generating Station	0232-01-C	140,281	154,633
Maui Electric Maalaea Generating Station	0067-01-C	417,182	459,864
Maui Electric Palaau Generating Station	0031-04-C	23,999	26,454

<sup>a</sup>Metric Tons = (0.90718474) x (Short Tons).

- b. All partnering facilities shall not exceed the following combined emission caps:
- i. For 2019, total combined CO<sub>2</sub>e emissions in excess of 7,208,661 short tons (6,539,587 metric tons) per calendar year.
  - ii. For 2020 and beyond, CO<sub>2</sub>e emissions in excess of 7,023,257 short tons (6,371,392 metric tons) per calendar year, except as specified in Attachment II – GHG, Special Condition No. C.3.
- c. For purposes of the CO<sub>2</sub>e emission limits in Attachment II - GHG, Special Condition Nos. C.1.a and C.1.b:
- i. The CO<sub>2</sub>e emissions shall have the same meaning as that specified in HAR §11-60.1-1;
  - ii. In accordance with HAR §11-60.1-204(d)(6)(B), biogenic carbon dioxide (CO<sub>2</sub>) emissions shall not be included when determining compliance with the emissions limit;
  - iii. The permittee shall be in compliance with the emissions limits by the end of 2019 and each calendar year thereafter;
  - iv. The permittee may exceed the emissions cap specified in Attachment II - GHG, Special Condition No. C.1.a, if the GHG emissions limit specified in Attachment II - GHG, Special Condition No. C.1.b is met; and

- v. At no time shall the permittee exceed Attachment II - GHG, Special Condition Nos. C.1.a and C.1.b simultaneously over a calendar year. For incidences when Attachment II - GHG, Special Condition Nos. C.1.a and C.1.b, are exceeded simultaneously, emissions in excess of the total combined cap shall be allocated according to the following equation for compliance purposes:

$$X = XG \frac{(A - C)}{\sum_{A_i > C_i} (A_i - C_i)}$$

Where,

- X = Adjusted portion in metric tons or short tons of GHG emissions that are in excess of total combined cap specified in Attachment II – GHG, Special Condition No. C.1.b. The equation applies to all affected facilities that do not meet the individual and total combined GHG emission caps specified in Attachment II – GHG, Special Condition Nos. C.1.a and C.1.b, respectively.
- XG = Total combined actual GHG emissions from affected facilities minus total combined GHG emissions cap.
- A = Actual GHG emissions from the affected facility.
- C = GHG emissions cap for the affected facility.
- $\sum_{A_i > C_i} (A_i - C_i)$  = The sum of the difference between the actual emissions and cap emissions for all facilities that did not achieve the individual facility-wide GHG emissions cap.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-204)

## 2. GHG Emission Cap Revisions

- a. The facility-wide GHG emissions cap may be re-evaluated and revised by the Department in accordance with HAR §11-60.1-204(h).
- b. Any revision to the facility-wide GHG emissions cap shall be considered a significant modification subject to the application and review requirements of HAR §11-60.1-104. For each GHG emission cap revision, the Department may impose additional emission limits or requirements, or limit the time-frame allowed for the revised GHG emissions cap.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-204)

## 3. Alternate Operating Scenarios

The alternate operating scenario for the PGV facility shutdown due to volcanic activity on the island of Hawaii in 2018, shall remain in effect until an additional net energy generation of 26,883 MWh per month from the PGV facility is reached in any month of the year. The following shall apply to the individual and total combined alternate operating scenario GHG emission cap adjustments starting January 1, 2020, and for any subsequent year until these alternate operating scenarios no longer apply:



- a. Attachment II – GHG, Special Condition No. C.3 no longer applies when:

$$NG_{PGV-R} \geq NG_{PGV2017}$$

Where,

$NG_{PGV2017}$  = 26,883 Net generating capacity from the PGV facility in calendar year 2017 on an average monthly basis (MWh) preceding its shutdown.

$NG_{PGV-R}$  = Net generation from the restored PGV facility (MWh per month).

- b. The alternate scenario individual GHG emission cap adjustment for calendar year 2019 is 97,524 short tons for Hamakua Energy, LLC, 17,132 short tons for Kanoiehua-Hill Generating Station, 31,213 short tons for Keahole Generating Station, and 39,535 short tons for Puna Generating Station. Starting on January 1, 2020, and for any subsequent year, the alternate scenario GHG emissions individual cap adjustment for each of the foregoing island of Hawaii partnering facilities shall be calculated by adding one-twelfth (1/12) of the 2019 annual adjustment for each facility’s individual GHG emissions cap specified in Attachment II – GHG, Special Condition No. C.1.a.ii per month for the facilities from January 1 of that year. Monthly adjustments to the individual GHG emission caps shall be determined as specified in Attachment II – GHG, Special Condition No. C.3.d until this alternate operating scenario no longer applies as specified in Attachment II – GHG, Special Condition No. C.3.a. A full one-twelfth (1/12) of the annual cap adjustment shall apply per month until the criteria in Attachment II – GHG, Special Condition No. C.3.a are met and not thereafter.
- c. The PGV alternate scenario total combined cap adjustment for calendar year 2019 is 185,404 short tons. Starting on January 1, 2020, and for any subsequent year, the PGV alternate operating scenario total combined GHG emissions cap adjustment shall be calculated by adding one-twelfth (1/12) of the 2019 annual adjustment of 15,450 short tons to the total combined cap specified in Attachment II – GHG, Special Condition No. C.1.b.ii per month from January 1 of that year. Monthly adjustments to the total combined GHG emissions cap shall be determined as specified in Attachment II – GHG, Special Condition No. C.3.d until this alternate operating scenario no longer applies as specified in Attachment II – GHG, Special Condition No. C.3.a. A full one-twelfth (1/12) of the annual cap adjustment shall apply per month until the criteria in Attachment II – GHG, Special Condition No. C.3.a are met and not thereafter.
- d. Monthly adjustments to the individual and total combined GHG emission caps shall be determined with the following equation:

$$AC = FAC/12$$

Where,

FAC = Full adjustment to CO<sub>2</sub>e caps (short tons – refer to table below).

AC = Monthly adjustment to GHG emissions caps.

Generating Station	Full Adjustment to CO <sub>2</sub> e Caps (Short Tons)	2020 CO <sub>2</sub> e Cap (Short Tons)	FAC/12 (Short Tons) <sup>b</sup>
Hamakua Energy	97,524	153,699	8,127
Kanoiehua-Hill	17,132	172,456	1,428
Keahole	31,213	242,208	2,601
Puna	39,535	31,747	3,295
Combined	185,404	see note <sup>a</sup>	15,450

<sup>a</sup>Total combined CO<sub>2</sub>e cap for all partnering facilities is 7,023,257 short tons.

<sup>b</sup>Monthly full CO<sub>2</sub>e cap adjustment.

- e. Individual GHG emission cap adjustments, affecting the total combined GHG emissions cap, shall only apply to partnering facilities on the island of Hawaii.
- f. The permittee may exceed the adjusted individual GHG emissions cap as determined in Attachment II – GHG, Special Condition No. C.3.b, if the adjusted total combined GHG emission cap as determined in Attachment II - GHG, Special Condition No. C.3.c is met.
- g. Alternate operating scenario records shall be maintained in accordance with Attachment II - GHG, Special Condition No. D.3.
- h. The terms and conditions under each operating scenario shall meet all applicable requirements, including the special conditions of this permit.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-204(h))

**Section D. Monitoring and Record Keeping Requirements**

1. GHG Emissions

For calculating CO<sub>2</sub>e emissions to assess fees, determining compliance with the GHG emission caps, and quality assurance/quality control requirements, the permittee shall:

- a. Monitor the CO<sub>2</sub> mass emissions data for the stationary source combustion units listed in Attachment II – GHG, Special Condition No. A.1, in accordance with 40 Code of Federal Regulations (CFR) §98.34;
- b. Estimate missing data in accordance with the applicable procedures in 40 CFR §98.35;
- c. Determine the metric tons of CO<sub>2</sub>, methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O) in accordance with 40 CFR §98.33;
- d. For measuring CO<sub>2</sub> mass emissions from the boilers with the Tier 4 calculation methodology, use Environmental Protection Agency (EPA) Reference Method 2F during each relative accuracy test audit (RATA) performed to quality assure the continuous emissions monitoring (CEMS) exhaust flow meter of each boiler;
- e. Correct the EPA Method 2F flow results obtained during each RATA with the established wall-effects adjustment factor (WAF);
- f. Conduct the CEMS exhaust flow meter RATA using the same number of traverse points as that used to determine the WAF;

- g. Identify, at a minimum, in the RATA reports, the test results, test methods, test locations, parameters evaluated, CEMS analyzer descriptions, WAF values including the number of traverse points used to determine the WAF and the number of traverse points used for EPA Method 2F, boiler operating load (MMBtu/hr), and the types and rates of fuel combusted including the associated certificate and analysis, or equivalent, of the coal combusted;
- h. Maintain records on the CEMS exhaust flow meter K-Factor(s) (flow correction multiplier and polynomial), WAF, and dilution ratio correction algorithm details for each boiler;
- i. Calculate the GHG emissions, expressed in metric tons of CO<sub>2</sub>e, using Equation A-1 of 40 CFR §98.2;
- j. Convert the metric tons of CO<sub>2</sub>e emissions to short tons for monitoring and annual emissions reporting, as applicable. For the conversion, one (1) short ton is equal to 0.90718474 metric tons;
- k. Maintain the certificate of sampling and analysis, or equivalent, of the coal supplied that provides, at a minimum, the coal moisture content, ash content, and carbon content (dry ash free basis), date of receiving the coal shipment, and the amount of coal supplied (e.g., short tons, metric tons, long tons, etc.);
- l. Maintain records on the short tons of limestone sorbent used for each boiler using measurements from a non-resetting weigh scale for the continuous and permanent recording of the amount of limestone fed to the boilers;
- m. Provide total actual CO<sub>2</sub>e emissions in Item 1 of **Monitoring Report Form: GHG Emissions** to Hawaiian Electric within **thirty (30) days** after the end of each semi-annual calendar period (January 1 – June 30 and July 1 – December 31). The monitoring report form, with Item 1 emissions data, shall be signed and dated by a responsible official; and
- n. Report CO<sub>2</sub>e emissions in accordance with Attachment II - GHG Special Condition No. E.4.

(Auth.: HAR §11-60.1-3, §11-60.1-90; §11-60.1-204d(6)(c); 40 CFR §98.2, §98.33, §98.34, §98.35, §98.6)

## 2. Records

All records, including support information, shall be maintained for **at least five (5) years** from the date of the monitoring sample, measurement, test, report, or applications. Support information includes all maintenance, inspection, and repair records, and copies of all reports required by this permit. These records shall be true, accurate, and maintained in a permanent form suitable for inspection and be made available to the Department or authorized representative(s) upon request.

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

3. Alternate Operating Scenarios

- a. The permittee shall contemporaneously with making a change from one operating scenario to another record in a log, the scenario under which it is operating.
- b. The permittee shall maintain all records corresponding to the implementation of an alternate operating scenario.

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

**Section E. Notification and Reporting Requirements**

1. Standard Condition Reporting

Notification and reporting pertaining to the following events shall be done in accordance with Attachment I, Standard Condition Nos. 17 and 24, respectively:

- a. Emissions of air pollutants in violation of HAR, Chapter 11-60.1 or this permit (excluding technology-based emission exceedances due to emergencies); and
- b. Permanent discontinuance of construction, modification, relocation, or operation of the facility covered by this permit.

(Auth.: HAR §11-60.1-8, §11-60.1-15, §11-60.1-16, §11-60.1-90; SIP §11-60-10, SIP §11-60-16)<sup>2</sup>

2. Deviations

- a. Except as specified in Attachment II - GHG, Special Condition No. E.2.b, the permittee shall report in writing **within five (5) working days** any deviations from permit requirements, including those attributed to upset conditions, the probable cause of such deviations, and any corrective actions or preventive measures taken. Corrective actions may include a requirement for testing, or more frequent monitoring, or could trigger implementation of a corrective action plan.
- b. The permittee shall report, in writing, deviations from Attachment II – GHG, Special Condition No. C.1.c.v, the probable cause of such deviations, and any corrective actions or preventive measures taken. Corrective actions may include a requirement for testing, more frequent monitoring, or could trigger implementation of a corrective action plan. Reports shall be submitted **within sixty (60) days** following the end of each calendar year.

(Auth.: HAR §11-60.1-3, §11-60.1-15, §11-60.1-16, §11-60.1-90)

### 3. Compliance Certification

- a. During the permit term, the permittee shall submit at least **annually** to the Department 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. For making this certification for the partnering facility conditions in Attachment II – GHG, the permittee is relying on information provided by other partners that these partners independently certify. The compliance certification shall include, at a minimum, the following information:
  - i. The identification of each term or condition of the permit that is the basis of the certification;
  - ii. The compliance status;
  - iii. Whether compliance was continuous or intermittent;
  - iv. The methods used for determining the compliance status of the source currently and over the reporting period;
  - v. 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;
  - vi. Brief description of any deviations including identifying as possible exceptions to compliance any periods during which compliance is required and which the excursion or exceedances as defined in 40 CFR Part 64 occurred; and
  - vii. Any additional information as required by the Department, including information to determine compliance.
- b. 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.
- c. Upon the written request of the permittee, the deadline for submitting the compliance certification may be extended, if the Department determines that reasonable justification exists for the extension.

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

### 4. Monitoring Reports

- a. The permittee shall complete and submit **semi-annual** monitoring reports to the Department that provide the metric tons and short tons of CO<sub>2</sub>e emitted by all partnering facilities, except that biogenic CO<sub>2</sub> shall be excluded from the total CO<sub>2</sub>e emissions. All reports shall be submitted **within sixty (60) days after** the end of each semi-annual calendar period (January 1 – June 30 and July 1 – December 31). The following enclosed form, or equivalent form, shall be used for reporting and shall be signed and dated by a responsible official:

**Monitoring Report Form: GHG Emissions**

- b. For calendar year 2019, the permittee shall report the CO<sub>2</sub>e emissions **within sixty (60) days** after the issuance of this permit. The Monitoring Report Form: GHG Emissions, or equivalent form, for the 2019 calendar year shall be used for reporting and shall be signed and dated by a responsible official.
- c. For calendar year 2020, the permittee shall report the CO<sub>2</sub>e emissions **within sixty (60) days** after the issuance of this permit or **within sixty (60) days** after the end of the semi-annual calendar period, whichever is later. The Monitoring Report Form: GHG Emissions, or equivalent form, for the 2020 calendar year shall be used for reporting and shall be signed and dated by a responsible official.
- d. Upon written request by the permittee, the deadline for submitting the monitoring report form may be extended, if the Department determines that reasonable justification exists for the extension.

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

#### **Section F. Agency Notification**

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

(Auth.: HAR §11-60.1-4, §11-60.1-90)

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<sup>1</sup>The citations to the CFR identified under a particular condition indicate that the permit condition complies with the specified provision(s) of the CFR. Due to the integration of the preconstruction and operating permit requirements, permit conditions may incorporate more stringent requirements than those set forth in the CFR.

<sup>2</sup>The citations to the State Implementation Plan (SIP) identified under a particular condition indicate that the permit condition complies with the specified provision(s) of the SIP.

**ATTACHMENT III: ANNUAL FEE REQUIREMENTS  
COVERED SOURCE PERMIT NO. 0087-02-C**

**Amended Date: October 27, 2020**

**Expiration Date: April 15, 2019**  
(Expiration Date to be Revised Upon Permit Renewal)

The following requirements for the submittal of annual fees are established pursuant to HAR, Title 11, Chapter 60.1, Air Pollution Control. Should HAR, Chapter 60.1, be revised such that the following requirements are in conflict with the provisions of HAR, Chapter 60.1, the permittee shall comply with the provisions of HAR, Chapter 60.1.

1. Annual fees shall be paid in full:
  - a. Within **one hundred twenty (120) days** after the end of each calendar year; and
  - b. Within **thirty (30) days** after the permanent discontinuance of the covered source.
2. The annual fees shall be determined and submitted in accordance with HAR, Chapter 11-60.1, Subchapter 6.
3. The annual emissions data for which the annual fees are based shall accompany the submittal of any annual fees and submitted on forms furnished by the Department.
4. The annual fees and the emission data shall be mailed to:

**State of Hawaii  
Clean Air Branch  
2827 Waimano Home Road, #130  
Pearl City, HI 96782**

**ATTACHMENT IV: ANNUAL EMISSIONS REPORTING REQUIREMENTS  
COVERED SOURCE PERMIT NO. 0087-02-C**

**Amended Date: October 27, 2020**

**Expiration Date: April 15, 2019**  
(Expiration Date to be Revised Upon Permit Renewal)

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

1. Complete the attached form(s):

Annual Emissions Report Form: Boilers/Dryers; and  
Annual Emissions/Monitoring Report Form: Cooling Tower.

2. The reporting period shall be from January 1 to December 31 of each year. All reports shall be submitted to the Department within **sixty (60) days** after the end of each calendar year and shall be mailed to the following address:

**State of Hawaii  
Clean Air Branch  
2827 Waimano Home Road #130  
Pearl City, HI 96782**

3. The permittee shall retain the information submitted, including all emission calculations. These records shall be in a permanent form suitable for inspection, retained for a minimum of five (5) years, and made available to the Department upon request.
4. Any information submitted to the Department without a request for confidentiality shall be considered public record.
5. In accordance with HAR, Section 11-60.1-14, the permittee may request confidential treatment of specific information, including information concerning secret processes or methods of manufacture, by submitting a written request to the Director of Health and clearly identifying the specific information that is to be accorded confidential treatment.



**MONITORING REPORT FORM  
GHG EMISSIONS  
COVERED SOURCE PERMIT NO. 0087-02-C  
(PAGE 1 OF 3)**

**Amended Date: October 27, 2020**

**Expiration Date: April 15, 2019**

(Expiration Date to be Revised Upon Permit Renewal)

In accordance with the HAR, 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 Name: \_\_\_\_\_

Location: \_\_\_\_\_

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. In making this certification for the partnering facility conditions in Items 2 and 3 of this form, I am relying on information provided by other partners that these partners independently certify.

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

Title: \_\_\_\_\_

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

1. Report the CO<sub>2</sub>e emitted by the AES Hawaii, LLC, cogeneration plant during each reporting period for purposes of the facility's individual GHG emissions cap:

Emission Year Reporting For _____					
Reporting Period	AES Hawaii, LLC Emissions (Metric Tons of CO <sub>2</sub> e)			AES Hawaii, LLC Emissions (Total CO <sub>2</sub> e)	
	CO <sub>2</sub> (Non-Biogenic)	CH <sub>4</sub>	N <sub>2</sub> O	Metric Tons	Short Tons
January 1 – June 30 (1 <sup>st</sup> Semi-Annual Period)					
July 1 – December 31 (2 <sup>nd</sup> Semi-Annual Period)					
Total Emissions →					

Provide the CO<sub>2</sub>e emitted by the AES Hawaii, LLC, cogeneration plant in Item 1 above to Hawaiian Electric during each reporting period for purposes of calculating the total combined GHG emissions from the partnering facilities.

**MONITORING REPORT FORM  
GHG EMISSIONS  
COVERED SOURCE PERMIT NO. 0087-02-C  
(CONTINUED, PAGE 2 OF 3)**

**Amended Date: October 27, 2020**

**Expiration Date: April 15, 2019**  
(Expiration Date to be Revised Upon Permit Renewal)

2. Report the total combined CO<sub>2</sub>e emitted by all partnering facilities during each reporting period for purposes of the total combined GHG emissions cap for these facilities:

Emission Year Reporting For _____					
Reporting Period	Total Combined Emissions from All Partnering Facilities (Metric Tons of CO <sub>2</sub> e)			Total CO <sub>2</sub> e	
	CO <sub>2</sub> (Non-Biogenic)	CH <sub>4</sub>	N <sub>2</sub> O	Metric Tons	Short Tons
January 1 – June 30 (1 <sup>st</sup> Semi-Annual Period)					
July 1 – December 31 (2 <sup>nd</sup> Semi-Annual Period)					
Total Emissions →					

3. For incidences when the individual cap for the AES Hawaii, LLC, cogeneration plant and total combined cap for all partnering facilities is exceeded, report the emissions in excess of the total combined cap using the following equation:

$$X = XG \frac{(A-C)}{\sum_{A_i > C_i} (A_i - C_i)} = \underline{\hspace{10em}}$$

Where,

X = Adjusted portion in metric tons or short tons of GHG emissions that are in excess of total combined cap specified in Attachment II – GHG, Special Condition No. C.1.b. The equation applies to all affected facilities that do not meet the individual and total combined GHG emission caps specified in Attachment II – GHG, Special Condition Nos. C.1.a and C.1.b, respectively.

XG = Total combined actual GHG emissions from affected facilities minus total combined GHG emissions cap.

A = Actual GHG emissions from the affected facility.

C = GHG emissions cap for the affected facility.

$\sum_{A_i > C_i} (A_i - C_i)$  = The sum of the difference between the actual emissions and cap emissions for all facilities that did not achieve the individual facility-wide GHG emissions cap.

**MONITORING REPORT FORM  
GHG EMISSIONS  
COVERED SOURCE PERMIT NO. 0087-02-C  
(CONTINUED, PAGE 3 OF 3)**

**Amended Date: October 27, 2020**

**Expiration Date: April 15, 2019**  
(Expiration Date to be Revised Upon Permit Renewal)

4. Report any changes to CEMS flow rate corrections initially applied to the CEMS setup for each boiler to correct bias high readings:

Emission Year Reporting For _____					
Correction Description	Initial Setup		CEMS Setup Changes		Reason for Change in CEMS Setup
	Boiler		Boiler		
	A	B	A	B	
CEMS K-Factor <sup>a</sup>	0.76	0.76			
WAF Factor	0.9147	0.9148			

<sup>a</sup>Also referred to as a flow data multiplier

5. Report on another sheet, any changes to the CEMS dilution ratio algorithm initially applied to the CEMS setup of Boiler A to correct bias high readings.
6. Report on another sheet, any changes to the CEMS dilution ratio corrections initially applied to the CEMS setup of Boiler B to correct bias high readings.
7. Submit the amount of limestone sorbent consumed for each semi-annual reporting period:

Emissions Year Reporting For _____		
Reporting Period	List Type(s) of Sorbent(s)	Consumption (Short Tons)
January 1 – June 30 (1 <sup>st</sup> Semi-annual Period)		
July 1 – December 31 (2 <sup>nd</sup> Semi-annual Period)		
Total Amount of Sorbent Consumed →		

8. Provide a copy of the certificate of sampling and analysis, or equivalent, for all coal burned during each semi-annual reporting period.