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September 27, 2016

Ms. Catherine Lopez, P.E.  
Manager, Clean Air Branch  
State of Hawaii Department of Health  
919 Ala Moana Blvd., Suite 203  
Honolulu, HI 96814

Re: Kauai Island Utility Cooperative  
CSPs No. 0097-01-C (Port Allen Generating Station) and 0452-01-C  
(Kapaia Power Station)  
Greenhouse Gas Reduction Plan

Dear Ms. Lopez:

In response to the Department's letter request dated August 25, 2016, we are providing the attached revised version of the Greenhouse Gas (GHG) Reduction Plan (Plan) for our Port Allen Generating Station (PAGS) and Kapaia Power Station (KPS). PAGS and KPS are partnering, as provided under H.A.R. 11-60.1-204, to achieve the GHG emissions reductions required by the regulation. In addition to the requested Plan revisions, we are also providing the following comments regarding our Plan.

#### Baseline Year

In our original June 2015 and revised July 2016 plans, we explained why 2010 was not an appropriate or representative base year for forecasting future electricity demand for our generating system. We discussed why other baseline periods were more representative of future demand for generation in view of the increased penetration of renewable resources and behind-the-meter generation, which we believe already reflect the shift from fossil fuels to renewable resources that is being partially driven by the state's GHG reduction goals. We showed forecasts of projected generation and resulting emissions through 2030 to demonstrate why we were concerned that the 2010 baseline would result in a GHG emissions cap that we could not comply with beyond 2030. While we can do as you suggest in your letter and revise our forecasts to reflect reduced future demand for electricity generation from fossil resources, this will not change the reality that when our customers flip a light switch or turn on an appliance, the electricity must be there regardless of whether our permits include a GHG emissions cap.

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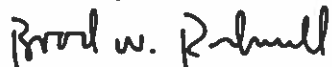
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We also note that we provided extensive comments during the Department's GHG rulemaking process detailing our concerns with the lack of flexibility afforded by the mass-based emissions cap that was ultimately adopted. We requested that the rule include the option of an emissions density limit that would recognize the large reductions in carbon density (in terms of pounds of CO<sub>2</sub> equivalent per megawatt-hour of generation) that we have made since 1990 and continue to make as we incorporate increasing amounts of CO<sub>2</sub>-free generation into our system. We described a situation in which unforeseen increases in demand for fossil generation, over which we have no control, could affect our GHG emissions. For example, electrification of the transportation sector could dramatically increase the demand for electricity and require increased fossil fuel generation while still reducing overall GHG emissions on the island, while a fixed GHG emissions cap provides no way of accommodating such a situation.

Nevertheless, we have revised our Plan to reflect the required 16% reduction from the GHG emissions emitted by our facilities in 2010, and we fully intend to meet the resulting emissions caps that will be incorporated into our Covered Source Permits. We have also discussed the proposed provisions of Appendix C to the Plan with your staff and believe the language provided in the attached Plan reflect the outcome of those discussions. The revised Plan is included as Attachment A.

Although your letter requested a response by September 26, in subsequent email correspondence your staff indicated that a later submittal date would be acceptable. We appreciate the opportunity to provide this additional information. If you have any questions regarding this information, feel free to contact me.

Sincerely,



Brad W. Rockwell, P.E.  
Power Supply Manager

Attachment

Greenhouse Gas Emission Reduction Plan  
for  
Kauai Island Utility Cooperative  
  
Port Allen Generating Station and  
Kapaia Power Station

**Revised September 2016**

# Greenhouse Gas Emission Reduction Plan for Kauai Island Utility Cooperative

## 1. Introduction

Kauai Island Utility Cooperative (KIUC) is a member-owned electric utility that generates, transmits, and distributes electricity to residents and businesses on the island of Kauai. KIUC serves more than 32,000 customers, generating electricity with hydropower, photovoltaic (PV), biofuel, biomass, and fossil-fueled generating resources. KIUC owns and operates two liquid fossil-fueled generating stations (Port Allen Generating Station in Eleele and Kapaia Power Station in Lihue) and a small hydropower installation, and has several PV solar installations in operation. KIUC also purchases power from renewable generating resources owned by others.

HAR §11-60.1, Subchapter 11, was adopted by HDOH to meet the requirements of Act 234, the 2007 law establishing the framework to reduce greenhouse gas (GHG) emissions<sup>1</sup> in Hawaii to 1990 levels by 2020. The regulation requires existing major covered sources with potential GHG emissions equal to or above 100,000 short tons per year of CO<sub>2</sub>e<sup>2</sup> to:

- Establish a facility-wide GHG emissions cap that is at least 16% below actual emissions during the baseline year, and
- Achieve and maintain GHG emissions below that cap into the future.

Both the Port Allen Generating Station (PAGS) and the Kapaia Power Station (KPS) are existing major covered sources with potential GHG emissions in excess of 100,000 tons per year of CO<sub>2</sub>e and therefore are subject to the requirements of Hawaii's GHG rules. KIUC has developed this Greenhouse Gas Emission Reduction Plan ("GHG Reduction Plan") to meet these requirements. Under this GHG Reduction Plan, PAGS and KPS will partner to achieve the required GHG reductions. The Plan, which will become part of the facilities' Covered Source Permits (CSPs), does the following:

- Establishes 2010 as the baseline period for establishing KIUC's 2020 GHG emissions cap;
- Establishes individual GHG emissions caps for PAGS and KPS, in metric tons of CO<sub>2</sub>e per year, and demonstrates that the sum of the allowances will be at least 16% below KIUC's total baseline GHG emission levels; and
- Establishes a combined emissions cap for the two facilities that allows either KPS or PAGS to exceed an individual cap as long as the total combined cap is not exceeded.

## 2. Emissions During the Baseline Period

The facility-wide GHG cap is calculated from the facility total baseline emissions. In accordance with §11-60.1-204(c), "Calendar year 2010 shall be used as the baseline year, unless the owner or operator can provide records for the director's approval demonstrating another year or an

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<sup>1</sup> Greenhouse gases emitted by KIUC are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O).

<sup>2</sup> CO<sub>2</sub>e, or carbon dioxide equivalent, means the amount of CO<sub>2</sub> that would have the equivalent global warming impact. Individual GHGs are weighted by their global warming potential (GWP) and summed to calculate CO<sub>2</sub>e.

average of other years to be more representative of normal operations.” KIUC has used 2010 as the baseline year for this Plan.

**2.2. GHG Emissions During the Baseline Period**

GHG emissions from PAGES and KPS during the 2010 baseline period were calculated following the procedures of 40 CFR Part 98, the Greenhouse Gas Reporting Rule. Calculated emissions of the individual GHGs were converted to a CO<sub>2</sub>-equivalent (CO<sub>2</sub>e) basis using global warming potentials from Intergovernmental Panel on Climate Change (IPCC), Fourth Assessment Report (AR4), 2007. GHG emissions during the baseline period were 302,484 metric tons of CO<sub>2</sub>e. Baseline year emissions from each facility are summarized in Table 1. Details of the calculations are provided in Attachment A.

<b>Table 1</b>			
<b>KIUC GHG Emissions During the 2010 Baseline Period</b>			
	2010 Fuel Use, MMBtu	Emissions	
		CO <sub>2</sub> e, MT	CO <sub>2</sub> e, tons
PAGES Subtotal	1,988,972	147,602	162,702
KPS Subtotal	1,857,463	126,810	139,783
<b>KIUC Total</b>	<b>3,846,435</b>	<b>274,412</b>	<b>302,484</b>

**2.3. 2020 GHG Emission Cap for KIUC**

In accordance with §11-60.1-204(c), the facility-wide cap is calculated as follows:

Facility-wide cap (tpy CO<sub>2</sub>e) =

$$(1-0.16) \times [\text{Facility Total Baseline Emissions (tpy CO}_2\text{e)} - \text{Facility Baseline Biogenic CO}_2\text{ Emissions (tpy CO}_2\text{e)}]$$

Since Facility Baseline Biogenic CO<sub>2</sub> Emissions are zero for KIUC, the calculation becomes

$$\begin{aligned} \text{Facility-wide cap (tpy CO}_2\text{e)} &= (1-0.16) \times \text{Facility Total Baseline Emissions (tpy CO}_2\text{e)} \\ &= 0.84 * 274,412 \text{ MT CO}_2\text{e} \\ &= 230,506 \text{ MT CO}_2\text{e} \end{aligned}$$

Therefore, the combined 2020 GHG emissions cap for KIUC’s Port Allen and Kapaia facilities is 230,506 metric tons of CO<sub>2</sub>e.

### **3. Individual Facility Allowances**

KIUC uses system-wide load and generation planning forecasts to forecast system demand well into the future to ensure that adequate resources are available to meet demand at all times. KIUC's planning forecasts have been used to forecast GHG emissions from PAGES and KPS through 2020. The GHG emissions forecasts are shown graphically in Figure 1, with supporting data shown in Attachment B. Based on these forecasts, the individual facility caps have been allocated as shown below.

- Kapaia Power Station: 136,000 metric tons per year of CO<sub>2</sub>e
- Port Allen Generating Station: 94,506 metric tons per year of CO<sub>2</sub>e
- Total, Kapaia Power Station and Port Allen Generating Station: 136,000 metric tons + 94,506 metric tons = 230,506 metric tons CO<sub>2</sub>e

Therefore, the sum of the individual caps does not exceed the facility-wide cap shown in Section 2 above.

### **4. Proposed Control Strategy**

#### **4.1 Control Measures**

KIUC's system-wide forecasts are based on the implementation of various strategies that will allow a portion of the increased demand to be met with non-fossil fuel-fired resources. KIUC's alternative generating resources include the following:

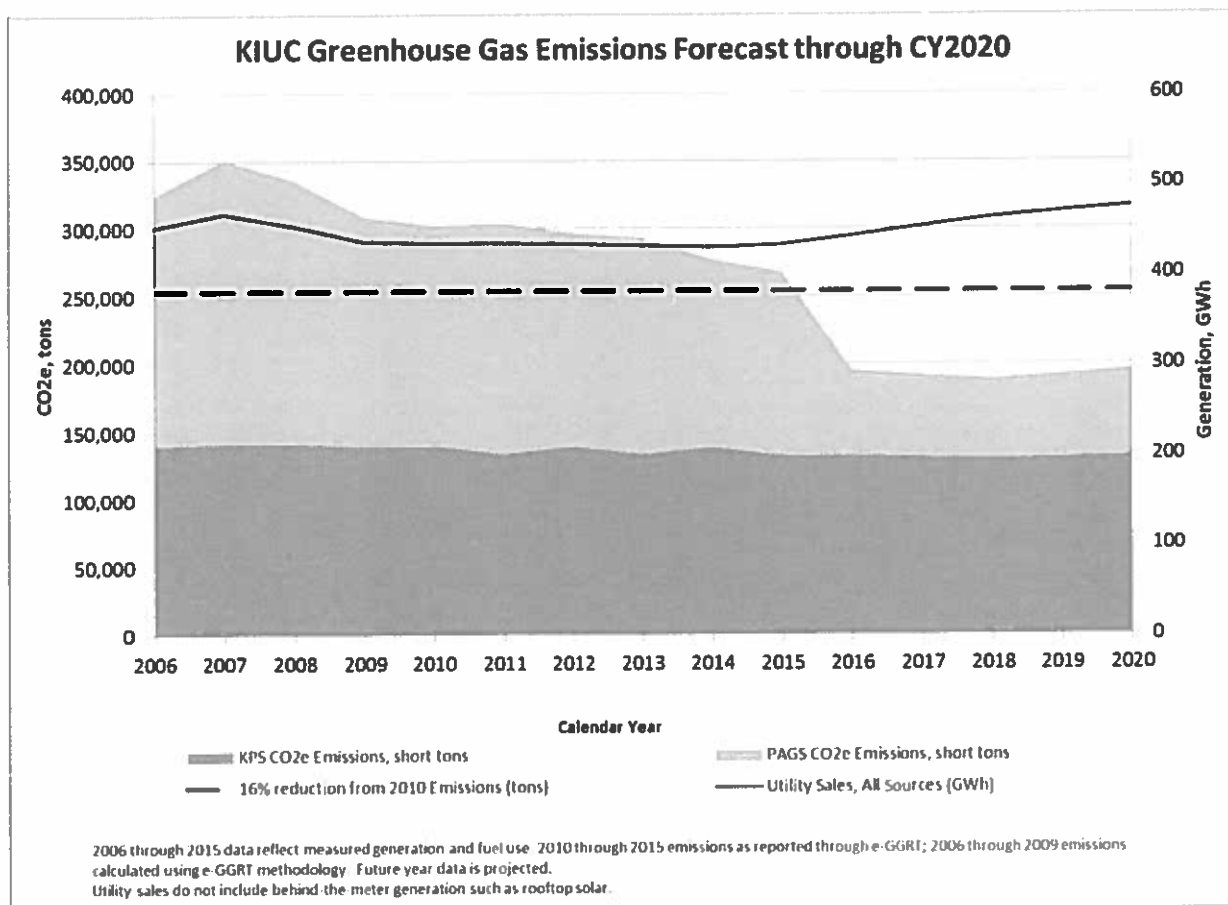
- Commercial and residential photovoltaic solar installations (rooftop PV);
- Utility-scale solar (KIUC-owned and third-party);
- Biomass; and
- Hydropower.

KIUC also implements a demand-side management (DSM) program that encourages electric customers to reduce electricity use through installation of more efficient light bulbs, solar water heaters, etc.

#### **4.2 Control Effectiveness and Implementation Schedule**

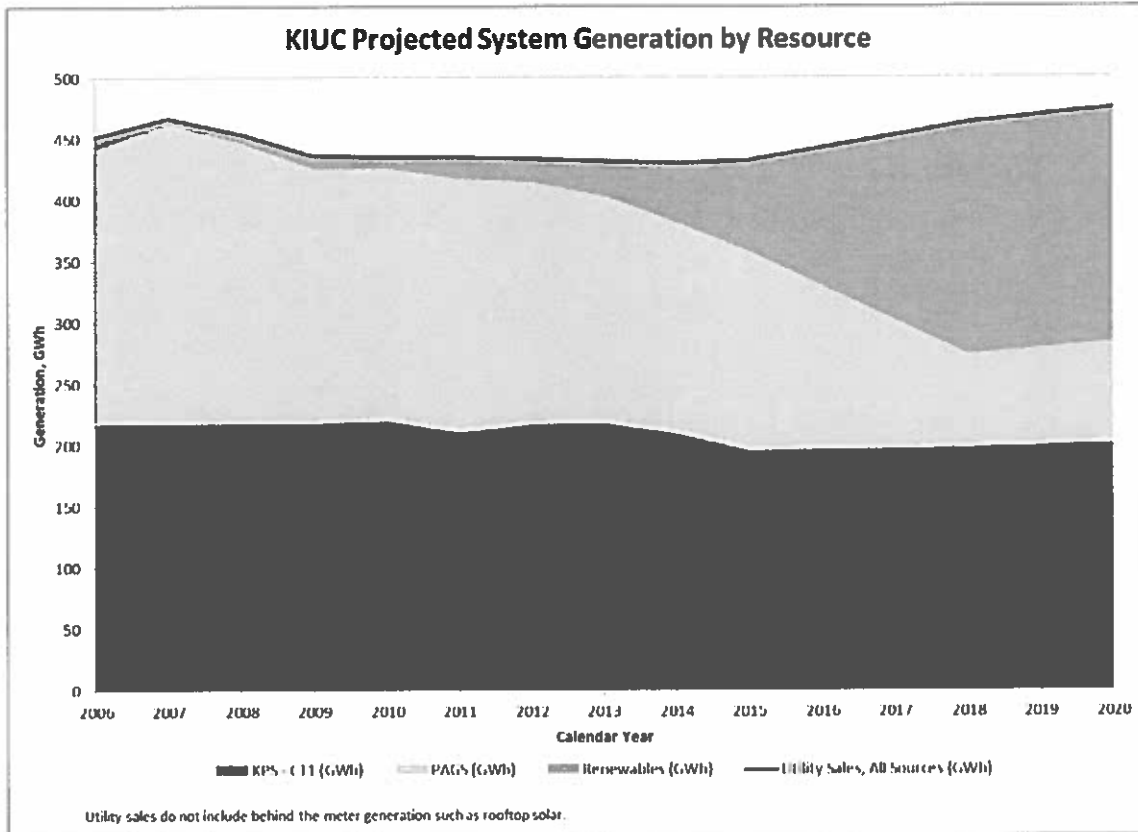
The GHG emissions forecasts in Figure 1 show that with the integration of renewable resources into KIUC's generating portfolio, GHG emissions from KIUC's fossil-fired generators will be reduced significantly in the next few years despite the projected increases in system-wide demand, and are expected to be below the 2020 cap by 2016.

Figure 1



The projected system generation forecast in Figure 2 shows that annual GHG emissions from the KPS gas turbine are expected to remain relatively constant throughout the forecast period as the gas turbine remains essentially base loaded regardless of the increases in generation provided by renewable resources. Conversely, between 2016 and 2018, much of the generation from the generating units at PAGES is expected to continue to be displaced by renewable resources. However, these generation forecasts, and consequently the GHG emissions projections, are very sensitive to available resources. A loss of a single small renewable project would put our compliance with the emissions cap in jeopardy by requiring additional generation at PAGES beyond what was anticipated in allocating the emissions caps between the power plants. An extended outage of the KPS gas turbine would require increased generation, and therefore higher GHG emissions, at PAGES although generation and emissions at KPS would be lower. Conversely, the loss of one or more of the SWD units at Port Allen for an extended period of time could result in the need to operate the KPS gas turbine more than currently anticipated.

Figure 2



Note also that these projections are based on assumptions regarding island-wide demand for electricity through 2020 (which include the implementation of additional demand-side management programs) and the availability of hydroelectric generation. Unusually hot, dry weather could increase demand and reduce the availability of hydropower, resulting in higher GHG emissions, while unusually cool, wet weather would have the opposite effect. Widespread adoption of electric vehicles would reduce GHG emissions from the motor vehicle fleet but could also increase electricity demand above projected levels. All of these are factors over which KIUC has no control.

Because these types of uncontrollable and unpredictable external factors can have such a significant impact on GHG emissions at the individual plants, we are proposing to include as part of the GHG Reduction Plan the flexibility to use a portion of the GHG emissions cap allocated to KPS at PAGES, or vice versa, without requiring a CSP amendment. The total cap for the two facilities would be unaffected, so total combined emissions from the facilities would still be required to remain below the cap. This proposed approach preserves the environmental benefits of the facility-wide caps and minimizes the burden on Clean Air Branch staff while ensuring that KIUC can continue to provide an adequate supply of electricity to its customers and maximizing the utility's use of local, sustainable sources of energy. Proposed conditions implementing the cap are provided in Attachment C.



### 4.3 Expected GHG Emissions Reductions

Overall expected GHG CO<sub>2</sub>e emissions reductions based on the projections in Section 3 are summarized in Table 2 below.

<b>Table 2</b>	
<b>KIUC GHG Emissions Reductions From the Baseline Year</b>	
	<b>CO<sub>2</sub>e , metric tons</b>
<b>Baseline (2010)</b>	<b>274,412</b>
<b>Projected Future (2019)<sup>a</sup></b>	<b>230,506</b>
<b>Expected Reductions</b>	<b>43,906</b>
<b>Note:</b>	
a. Because compliance with the emissions cap will be determined as of January 1, 2020 (HAR 11-60.1-204(j)), actual GHG emissions in CY2019 must comply with the cap.	

### 5. Monitoring, Recordkeeping and Reporting

Under the existing GHG Monitoring Plan required under 40 CFR Part 98, KIUC currently monitors fuel use in the PAGES and KPS generating units and auxiliary equipment, and maintains all records needed to calculate and report GHG emissions through the federal e-GGRT program, in accordance with the requirements of 40 CFR Part 98, Subpart C. KIUC is required to report GHG emissions annually through e-GGRT and to HDOH for fee assessment purposes. While no additional monitoring, recordkeeping, or reporting requirements are necessary to ensure compliance with the proposed emissions cap, we are proposing to include calculated GHG emissions in each facility's semi-annual monitoring report. Proposed monitoring and reporting conditions are also included in Attachment C.

**Attachment A**  
**Calculation of Emissions for the Baseline Period**

**Default Emission Factors (Tables C-1 and C-2 to Subpart C of Part 98)**

Fuel Type	Default Emission Factors, kg /mmBtu		
	CO2	CH4	N2O
Distillate #2	73.96	3.0E-03	6.0E-04
Used Oil	74.00	3.0E-03	6.0E-04
Naphtha (<401 deg F)	68.02	3.0E-03	6.0E-04
<b>CO2e GWP</b>	<b>1</b>	<b>25</b>	<b>298</b>

**KIUC Calculated GHG Emissions**

Unit	Fuel	2010 Fuel Use, MMBtu/yr
<b>Port Allen Generating Station</b>		
GT1	Diesel	70,500
GT2	Diesel	71,662
D1/D2	Diesel	34,977
D3/D4/D5	Diesel	136,343
SWDs	Diesel	1,503,728
S-1	Diesel	112,255
S-1	Used oil	57,366
BS GT1	Diesel	1,115
BS GT2	Diesel	1,027
Facility Total		1,988,972
CO2e, MT		147,602
CO2e, tons		162,702
<b>Kapaia Power Station</b>		
CT	Naphtha	1,856,906
CT	Diesel	544
BS Gen	Diesel	13
Facility Total		1,857,463
CO2e, MT		126,810
CO2e, tons		139,783
<b>KIUC Total</b>		
Fuel Use, MMBtu		3,846,435
CO2e, MT		274,412
CO2e, tons		302,484

**Attachment B**  
**KIUC Generation and GHG Emissions Forecasts through 2020**

	Calendar Year														
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
	Fossil Generation (GWh)														
PAGS - EMDs (GWh)					15	16	25	22	10	11	8	5	2	2	3
PAGS - SWDs (GWh)					172	159	156	145	149	138	116	94	71	74	77
Other PAGS (GWh)					18	29	30	27	11	13	9	6	2	2	3
PAGS (GWh)	224	244	228	207	206	206	197	185	172	162	133	104	76	79	82
KPS - CT1 (GWh)	217	218	218	218	220	210	217	218	209	195	196	197	198	199	201
Total Fossil Generation (GWh)	441	462	446	425	425	417	414	403	381	358	329	301	273	278	283
Renewables (GWh)	11	5	8	11	9	18	19	29	49	75	113	151	190	191	191
Utility Sales, All Sources (GWh)	452	467	454	436	435	435	433	431	430	432	442	453	463	469	475
Self-Generation (est. GWh)	3	3	10	12	12	14	15	20	30	36					
Total Electricity Use (est. GWh)	455	470	464	448	447	448.5	448.5	451	460	468					
Total CO2e, metric tons	294,974	318,733	304,836	280,309	274,412	275,822	268,981	265,756	251,332	242,976	176,834	173,890	170,945	174,207	177,446
PAGS CO2e Emissions, metric tons	167,863	190,144	176,436	153,840	147,602	154,536	142,841	144,663	125,971	122,959	56,898	55,036	53,175	55,630	57,949
KPS CO2e Emissions, metric tons	127,111	128,589	128,399	126,469	126,810	121,286	126,140	121,093	125,362	120,017	119,936	118,853	117,770	118,577	119,497

**Attachment C**  
**Proposed CSP Conditions for GHG Emissions Caps**

**For Port Allen Generating Station, Covered Source Permit (CSP) No. 0097-01-C**

**Section A. Operational and Emission Limitations**

**1. CO<sub>2</sub>e Emissions Limits**

- a. For purposes of the CO<sub>2</sub>e emissions limits in Attachment II, Condition No. A.1:
  - i. CO<sub>2</sub>e emissions shall have the same meaning as that specified in HAR §11-60.1-1;
  - ii. The emissions limits are based on the following CO<sub>2</sub>e emissions caps:

Facility	Permit No.	Applicable CO <sub>2</sub> e Emission Cap (metric tons per year)
Port Allen Generating Station	CSP No. 0097-01-C	94,506
Kapaia Power Station	CSP No. 0452-01-C	136,000
Combined Emissions Cap	n/a	230,506

- iii. In accordance with HAR §11-60.1-204(d)(B)(6)(8), biogenic CO<sub>2</sub>e emissions are not included when determining compliance with the emissions limits; and
    - iv. The permittee shall be in compliance with the emissions limits by the end of 2019 and each calendar year thereafter.
  - b. The Port Allen Generating Station shall not emit or cause to be emitted carbon dioxide equivalent (CO<sub>2</sub>e) emissions in excess of 94,506 metric tons per calendar year, except as specified in Attachment II, Special Condition No. 1.d.
  - c. The Port Allen Generating Station combined with the Kapaia Power Station shall not emit or cause to be emitted total combined CO<sub>2</sub>e emissions in excess of 230,506 metric tons per calendar year.
  - d. The permittee may exceed the emissions limit specified in Attachment II, Special Condition No. A.1.b, if the emissions limit specified in Attachment II, Condition No. A.1.c is met.
  - e. For incidences when the emissions limit in Attachment II, Condition No. A.1.c is exceeded during any calendar year, excess CO<sub>2</sub>e emissions shall be allocated according to the following equation for compliance purposes:

$$X_T = A_C - C_C$$

If  $X_P > 0$  and  $X_T > 0$ , Attachment II, Condition No. A.1.c is exceeded, the excess CO<sub>2</sub>e emissions shall be allocated as follows:

$$X_P = X_T \left[ \frac{(A_P - C_P)}{\sum_{A_i > C_i} (A_i - C_i)} \right] \text{ and } X_K = X_T \left[ \frac{(A_K - C_K)}{\sum_{A_i > C_i} (A_i - C_i)} \right]$$

where

$X_P$  = Excess CO<sub>2</sub>e emissions from Port Allen Generating Station for the calendar year

$X_K$  = Excess CO<sub>2</sub>e emissions from Kapaia Power Station for the calendar year

$X_T$  = Total excess CO<sub>2</sub>e emissions for the calendar year

$A_P$  = Actual CO<sub>2</sub>e emissions from Port Allen Generating Station for the calendar year

$A_K$  = Actual CO<sub>2</sub>e emissions from Kapaia Power Station for the calendar year

$A_C$  = Actual total CO<sub>2</sub>e emissions for the calendar year =  $A_P + A_K$

$C_P$  = CO<sub>2</sub>e emissions cap for Port Allen Generating Station from Special Condition No. A.1.b

$C_K$  = CO<sub>2</sub>e emissions cap for Kapaia Power Station from Special Condition No. A.1.a.ii

$C_C$  = Combined CO<sub>2</sub>e emissions cap from Special Condition No. A.1.c

#### **Section B. Monitoring and Reporting for Permit Emissions Limit**

1. The permittee shall submit semi-annually written reports to the Department of Health for monitoring purposes. The reports shall be submitted **within sixty (60) days after the end of each semi-annual calendar period (January 1 to June 30 and July 1 to December 31)** and shall include the following:
  - a. The fuel consumption (in millions of British thermal units, BTU) for each unit for the semi-annual calendar period;
  - b. The total CO<sub>2</sub>e emissions for the facility during the semi-annual calendar period and during the calendar year to date, in metric tons, calculated in accordance with the procedures of 40 CFR Part 98, Subpart C;
  - c. The total combined CO<sub>2</sub>e emissions for both generating facilities owned and operated by KIUC and covered by CSP No. 0097-01-C and 0452-01-C during the semi-annual calendar period and during the calendar year to date, in metric tons; and
  - d. Any deviation from the CO<sub>2</sub>e emissions limits in Attachment II, Special Condition A.1 shall be clearly identified, in accordance with the procedure in Attachment II, Condition No. A.1.e.



**For Kapaia Power Station, Covered Source Permit (CSP) No. 452-01-C**

**Section A. Operational and Emission Limitations**

**1. CO<sub>2</sub>e Emissions Limits**

a. For purposes of the CO<sub>2</sub>e emissions limits in Attachment II, Condition No. A.1:

- i. CO<sub>2</sub>e emissions shall have the same meaning as that specified in HAR §11-60.1-1;
- ii. The emissions limits are based on the following CO<sub>2</sub>e emissions caps:

Facility	Permit No.	Applicable CO <sub>2</sub> e Emission Cap (metric tons per year)
Port Allen Generating Station	CSP No. 0097-01-C	94,506
Kapaia Power Station	CSP No. 0452-01-C	136,000
Combined Emissions Cap	n/a	230,506

- iii. In accordance with HAR §11-60.1-204(d)(B)(6)(8), biogenic CO<sub>2</sub>e emissions are not included when determining compliance with the emissions limits; and
- iv. The permittee shall be in compliance with the emissions limits by the end of 2019 and each calendar year thereafter.

- b. The Kapaia Power Station shall not emit or cause to be emitted carbon dioxide equivalent (CO<sub>2</sub>e) emissions in excess of 136,000 metric tons per calendar year, except as specified in Attachment II, Special Condition No. 1.d.
- c. The Kapaia Power Station combined with the Port Allen Generating Station shall not emit or cause to be emitted total combined CO<sub>2</sub>e emissions in excess of 230,506 metric tons per calendar year.
- d. The permittee may exceed the emissions limit specified in Attachment II, Special Condition No. A.1.b, if the emissions limit specified in Attachment II, Condition No. A.1.c is met.
- e. For incidences when the emissions limit in Attachment II, Condition No. A.1.c is exceeded during any calendar year, excess CO<sub>2</sub>e emissions shall be allocated according to the following equation for compliance purposes:

$$X_T = A_C - C_C$$

If  $X_P > 0$  and  $X_T > 0$ , Attachment II, Condition No. A.1.c is exceeded, the excess CO<sub>2</sub>e emissions shall be allocated as follows:

$$X_P = X_T \left[ \frac{(A_P - C_P)}{\sum_{A_i > C_i} (A_i - C_i)} \right] \text{ and } X_K = X_T \left[ \frac{(A_K - C_K)}{\sum_{A_i > C_i} (A_i - C_i)} \right]$$

where

$X_P$  = Excess CO<sub>2</sub>e emissions from Port Allen Generating Station for the calendar year

$X_K$  = Excess CO<sub>2</sub>e emissions from Kapaia Power Station for the calendar year

$X_T$  = Total excess CO<sub>2</sub>e emissions for the calendar year

$A_P$  = Actual CO<sub>2</sub>e emissions from Port Allen Generating Station for the calendar year

$A_K$  = Actual CO<sub>2</sub>e emissions from Kapaia Power Station for the calendar year

$A_C$  = Actual total CO<sub>2</sub>e emissions for the calendar year =  $A_P + A_K$

$C_P$  = CO<sub>2</sub>e emissions cap for Port Allen Generating Station from Special Condition No. A.1.b

$C_K$  = CO<sub>2</sub>e emissions cap for Kapaia Power Station from Special Condition No. A.1.a.ii

$C_C$  = Combined CO<sub>2</sub>e emissions cap from Special Condition No. A.1.c

#### **Section B. Monitoring and Reporting for Permit Emissions Limit**

1. The permittee shall submit semi-annually written reports to the Department of Health for monitoring purposes. The reports shall be submitted **within sixty (60) days after the end of each semi-annual calendar period (January 1 to June 30 and July 1 to December 31)** and shall include the following:
  - a. The fuel consumption (in millions of British thermal units, BTU) for each unit for the semi-annual calendar period;
  - b. The total CO<sub>2</sub>e emissions for the facility during the semi-annual calendar period and during the calendar year to date, in metric tons, calculated in accordance with the procedures of 40 CFR Part 98, Subpart C; and
  - c. The total combined CO<sub>2</sub>e emissions for both generating facilities owned and operated by KIUC and covered by CSP No. 0097-01-C and 0452-01-C during the semi-annual calendar period and during the calendar year to date, in metric tons.
  - d. Any deviation from the CO<sub>2</sub>e emissions limits in Attachment II, Special Condition A.1 shall be clearly identified, in accordance with the procedure in Attachment II, Condition No. A.1.e.