

DAVID Y. IGE
GOVERNOR OF HAWAII



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

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
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STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. Box 3378
HONOLULU, HAWAII 96801-3378

In reply, please refer to:
File:
21-153E CAB
File No. 0088-01

June 30, 2021

Mr. Richard L. Creamer
Vice President and
General Manager
Par Hawaii Refining, LLC
91-325 Komohana Street
Kapolei, Hawaii 96707-1713

Dear Mr. Creamer:

**SUBJECT: Amendment of Covered Source Permit (CSP) No. 0088-01-C
Application for Significant Modification No. 0088-33
Par Hawaii Refining, LLC
Par West Refinery
Located At: 91-480 Malakole Street, Kapolei, Oahu
Date of Expiration: December 17, 2025**

In accordance with Hawaii Administrative Rules (HAR) Chapter 11-60.1, and pursuant to your application for a significant modification dated November 19, 2020, the greenhouse gas (GHG) emission reduction plan revision provided with the application, and the additional information provided in emails from Par Hawaii Refining, LLC, personnel on February 22, 2021, May 19, 2021, and June 16, 2021, the Department of Health, Clean Air Branch (herein after referred to as Department), hereby amends CSP No. 0088-01-C issued to Par Hawaii Refining, LLC for the Par West Refinery on December 18, 2020. A receipt for the application filing fee of \$1,000.00 is enclosed for the significant modification to incorporate GHG emission caps.

In accordance with HAR, Chapter 11-60.1, Subchapter 11, the amendment incorporates provisions for partnering between Par West Refinery and Par East Refinery under CSP No. 0088-01-C to combine emissions for flexibility in achieving GHG reductions. 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).

This amendment designates CSP No. 0212-01-C for the Par East Refinery as the main permit to specify the individual and total combined GHG emission caps for the partnering facilities. This will enable the modification of a single permit if the GHG emission caps need to be revised and reduce the burden of modifying all partnering permits had the caps been incorporated separately into each facility's permit.

The following enclosed Attachment II – GHG and monitoring report form are hereby added to CSP No. 0088-01-C issued on December 18, 2020, to incorporate the GHG permitting provisions:

Attachment II – GHG: Special Conditions – GHG Reduction Requirements
Monitoring Report Form: GHG Emissions

Mr. Richard L. Creamer
June 30, 2021
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All other permit conditions of CSP No. 0088-01-C issued on December 18, 2020, 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,



JOANNA L. SETO, P.E., CHIEF
Environmental Management Division

MM:tkg

Enclosures

**ATTACHMENT II - GHG: SPECIAL CONDITIONS
GHG REDUCTION REQUIREMENTS
COVERED SOURCE PERMIT NO. 0088-01-C**

Amended Date: June 30, 2021

Expiration Date: December 17, 2025

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

1. Attachment II – GHG of this permit encompasses equipment, plants, and associated appurtenances for the following source categories:

Stationary Combustion	
Unit No.	Description
F-5103	151 MMBtu/hr (LHV) Atmospheric Furnace with Low NO _x Burners
F-5153	62.5 MMBtu/hr (LHV) Vacuum Furnace with Low NO _x Burners
-----	Catalytic Oxidizer
F-5205 F-5206	Two (2) 99 MMBtu/hr Boilers, Foster Wheeler, Model No. AG-5060, Serial Nos. 7414 and 7415, National Board Nos. 585 and 586
F-5930	4 MMBtu/hr Isomerization Unit Furnace
F-5950	1.6 MMBtu/hr Isomerization Unit Furnace
F-6200	Acid Plant Combustion Chamber
F-6260	Acid Plant Pre-heater
K-6701 K-6702 K-6703 K-6704	Four (4) 46 MMBtu/hr (HHV) Gas Turbines, Solar Centaur 40, Model No. 40-4701, each equipped with a 49 MMBtu/hr (HHV) gas-fired Duct Burner, Heat Recovery Steam Generator (HRSG), water injection, and low NO _x Burners
BSG	Black Start Diesel Engine Generator, Model No. DFEG, Tier 2 Rated
-----	Transfer Pump, Tier 3 or Higher Rated, Not to Exceed 175 hp
-----	Sand Filter Pump No. 2, Tier 3 or Higher Rated, Not to Exceed 175 hp
-----	Sand Filter Pump No. 1, Tier 3 or Higher Rated, Not to Exceed 175 hp
Note: Heat Recovery Steam Generator (HRSG), High Heating Value (HHV), Horsepower (hp), Hour (hr), Low Heating Value (LHV), Million British Thermal Units (MMBtu), and Nitrogen Oxide (NO _x).	

Hydrogen Production	
Unit No.	Description
F-5600	9 MMBtu/hr Hydrogenation Unit Furnace
F-5700	24.3 MMBtu/hr Hydrogen Unit Furnace
HMU	Feedstock for Hydrogen Manufacturing Unit
Note: Hour (hr), Hydrogen Manufacturing Unit (HMU), Million British Thermal Units (MMBtu).	
Units F-5600 and F-5700 are subject to monitoring and recordkeeping requirements from the stationary combustion source category.	

Petroleum Refineries	
Unit No.	Description
F-2301	20" Diameter Steam Assisted Crude/Sweet Flare
F-2302	42" Diameter Steam Assisted FCC/Sour Flare
-----	Acid Plant
-----	Equipment Leaks
Note: Fluid Catalytic Cracker (FCC).	

(Auth.: HAR §11-60.1-3)

2. 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, permit application for significant modification, and additional information provided in emails from Par Hawaii Refining, LLC, personnel on February 22, 2021, May 19, 2021, and June 16, 2021. 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 reduction plan submittal, the permittee shall report:
 - a. The GHG emission reduction status;
 - b. Factors contributing to the emission changes;
 - c. Any control measure updates; and
 - d. 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

1. 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)¹

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)¹

Section C. GHG Emission Limitations

1. GHG Emission Caps

- a. Par West Refinery shall not emit or cause to be emitted carbon dioxide equivalent (CO₂e) emissions in excess of its individual GHG emissions cap specified in Attachment II – GHG, Special Condition No. C.1.a of CSP No. 0212-01-C for Par East Refinery, except as specified in Attachment II – GHG, Special Condition No. C.1.c.iv of this permit.
- b. Par West Refinery combined with all partnering facilities shall not emit or cause to be emitted total combined CO₂e emissions in excess of the combined limit specified in Attachment II – GHG, Special Condition No. C.1.b of CSP No. 0212-01-C for the Par East Refinery.
- c. For purposes of the CO₂e emission limits in Attachment II – GHG, Special Condition Nos. C.1.a and C.1.b:
 - i. The CO₂e 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 CO₂ 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. Total combined emissions cap shall be sixteen percent (16%) below the total combined baseline emission level less biogenic CO₂ emissions.

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 caps 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)

Section D. Monitoring and Record Keeping Requirements

1. GHG Emissions (Stationary Combustion Sources)

For calculating GHG emissions from stationary combustion and quality assurance (QA)/quality control (QC) requirements, the permittee shall:

- a. Monitor mass emissions data for stationary source combustion units with the appropriate methods specified in 40 Code of Federal Regulations (CFR) §98.34;
- b. Estimate missing data in accordance with the applicable procedures in 40 CFR §98.35; and
- c. Determine the metric tons of carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) in accordance with the appropriate calculation methodology in 40 CFR §98.33.

(Auth.: HAR §11-60.1-3, §11-60.1-90; 40 CFR §98.33, §98.34, §98.35)

2. GHG Emissions (Hydrogen Production)

For calculating GHG emissions from hydrogen production and QA/QC requirements, the permittee shall:

- a. Monitor the GHG emissions data in accordance with 40 CFR §98.164;
- b. Estimate missing data in accordance with the applicable procedures in 40 CFR §98.165; and
- c. Calculate the CO₂ emissions for hydrogen manufacturing with the appropriate methods specified in 40 CFR §98.163.

(Auth.: HAR §11-60.1-3, §11-60.1-90; 40 CFR §98.163, §98.164, §98.165)

3. GHG Emissions (Petroleum Refineries Source Category)

For calculating GHG emissions from sources in the petroleum refineries source category and QA/QC requirements, the permittee shall:

- a. Monitor the GHG emissions data in accordance with the applicable procedures of 40 CFR §98.254;
- b. Estimate missing data in accordance with the applicable procedures in 40 CFR §98.255; and
- c. Calculate the CO₂, CH₄, and N₂O emissions with the appropriate methods specified in 40 CFR §98.253.

(Auth.: HAR §11-60.1-3, §11-60.1-90; 40 CFR §98.253, §98.254, §98.255)

4. Total CO₂e Emissions

For determining compliance with the CO₂e emission caps and assessing fees, the permittee shall:

- a. Sum the emission estimates from Attachment II – GHG, Special Condition Nos. D.1, D.2, and D.3 using Equation A-1 of 40 CFR §98.2;
- b. Convert the metric tons of CO₂e 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; and
- c. Report the total combined CO₂e emissions in accordance with Attachment II – GHG, Special Condition No. E.4.

(Auth.: HAR §11-60.1-3, §11-60.1-90; 40 CFR §98.2)

5. 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)

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)²

2. Deviations

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.

(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. Environmental Protection Agency, 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:
 - 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 CO₂e emitted by all partnering facilities, except that biogenic CO₂ shall be excluded from the total CO₂e 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 and 2020, the permittee shall report the CO₂e emissions **within sixty (60) days after** the issuance of this permit. The Monitoring Report Form: GHG Emissions, or equivalent form, for the 2019 and 2020 calendar years shall be used for reporting and shall be signed and dated by a responsible official.
- c. For calendar year 2021, the permittee shall report the CO₂e 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 2021 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 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)

CSP No. 0088-01-C
Attachment II - GHG
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Amended Date: June 30, 2021
Expiration Date: December 17, 2025

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)

¹The 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.

²The 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.

**MONITORING REPORT FORM
GHG EMISSIONS
COVERED SOURCE PERMIT NO. 0088-01-C
(PAGE 1 OF 2)**

Amended Date: June 30, 2021

Expiration Date: December 17, 2025

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 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.

Responsible Official (Print): _____

Title: _____

Responsible Official (Signature): _____

1. Report the carbon dioxide equivalent (CO₂e) emitted by Par West Refinery during each reporting period for purposes of the facility's individual GHG emissions cap:

Emission Year Reporting For _____					
Reporting Period	Par West Refinery Emissions (Metric Tons of CO ₂ e)			Par West Refinery Emissions (Total CO ₂ e)	
	CO ₂ (Non-Biogenic)	CH ₄	N ₂ O	Metric Tons	Short Tons
January 1 – June 30 (1 st Semi-Annual Period)					
July 1 – December 31 (2 nd Semi-Annual Period)					
Total Emissions →					

**MONITORING REPORT FORM
GHG EMISSIONS
COVERED SOURCE PERMIT NO. 0088-01-C
(CONTINUED, PAGE 2 OF 2)**

Amended Date: June 30, 2021

Expiration Date: December 17, 2025

2. Report the total combined CO₂e 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 ₂ e)			Total CO ₂ e	
	CO ₂ (Non-Biogenic)	CH ₄	N ₂ O	Metric Tons	Short Tons
January 1 – June 30 (1 st Semi-Annual Period)					
July 1 – December 31 (2 nd Semi-Annual Period)					
Total Emissions →					

3. For incidences when the individual cap for Par West Refinery and total combined cap for all partnering facilities is exceeded, report the emissions in excess of the total combined cap using the following equation:

$$X = XG \frac{(A-C)}{\sum_{A_i > C_i} (A_i - C_i)} = \underline{\hspace{2cm}}$$

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. Total combined emissions cap shall be sixteen percent (16%) below the total combined baseline emission level less biogenic CO₂ emissions.

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.