

ADMINISTRATIVE RECORD

Island Commodities

Application for an Initial CSP No. 0377-01-C

One (1) 500 HP Boiler and One (1) 150 HP Boiler

Located At: 91-269 Olai Street, Kapolei, Oahu

CSP No. 0377-01-C

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Public Notice

**REQUEST FOR PUBLIC COMMENTS
ON DRAFT AIR PERMIT
REGULATING THE EMISSIONS OF AIR POLLUTANTS**

(Docket No. 21-CA-PA-09)

Pursuant to Hawaii Revised Statutes (HRS), Chapter 342B-13 and Hawaii Administrative Rules (HAR), Chapter 11-60.1, the Department of Health, State of Hawaii (DOH), is requesting public comments on the following **DRAFT PERMIT** presently under review for:

Covered Source Permit (CSP) No. 0377-01-C

Initial Permit Application No. 0377-05

Island Commodities

One (1) 500 HP Boiler and One (1) 150 HP Boiler

Located At: 91-269 Olai Street, Kapolei, Oahu

UTM: Zone 4; 593,616 m E, 2,355,298 m N (NAD-83)

The **DRAFT PERMIT** is described as follows:

The issuance of **CSP No. 0377-01-C** would grant conditional approval to Island Commodities to install and operate one (1) 500 HP Boiler and one (1) 150 HP Boiler. This facility is subject to 40 Code of Federal Regulations (CFR) Part 60, *Standards of Performance for New Stationary Sources, Subpart A, General Provisions and Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*. This facility is also subject to 40 CFR Part 63, *National Emission Standards for Hazardous Air Pollutants, Subpart JJJJJJ, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources*.

The **ADMINISTRATIVE RECORD**, consisting of the **APPLICATION** and non-confidential supporting material from the applicant, the permit review summary, and the **DRAFT PERMIT**, is available for public inspection online at:

<http://health.hawaii.gov/cab/public-notices/> and at the following locations during regular office hours, Monday through Friday, 7:45 a.m. to 4:15 p.m.:

Oahu:

- Clean Air Branch, Department of Health
2827 Waimano Home Road, Room 130, Pearl City, Oahu 96782

All comments on the draft permit and any request for a public hearing must be in writing, addressed to the Clean Air Branch at the above address on Oahu, and must be postmarked or received by **October 6, 2021**.

Any person may request a public hearing by submitting a written request that explains the party's interest and the reasons why a hearing is warranted. The DOH may hold a public hearing if a hearing would aid in DOH's decision. If a public hearing is warranted, a public notice for the hearing will be published at least thirty days in advance of the hearing.

Interested persons may obtain copies of the administrative record or parts thereof by paying **five cents per page copying costs**. Please send written requests to the Oahu office of the Clean Air Branch listed above or call Ms. Liyuan Cao at the Clean Air Branch at (808) 586-4200.

Comments on the draft permit should address, but need not be limited to, the permit conditions and the facility's compliance with federal and state air pollution laws, including: (1) the National and State Ambient Air Quality Standards; and (2) HRS, Chapter 342B and HAR, Chapter 11-60.1.

The DOH will make a final decision on the permit after considering all comments and will send notice of the final decision to each person who has submitted comments or requested such notice.

Elizabeth A. Char, M.D.
Director of Health

Draft Permit

Date

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
(xxxx xxxx xxxx xxxx xxxx)

21-xxxE CAB
File No. 0377

Mr. Paul Tower
General Manager
Island Commodities
Division of Baker
Commodities, Inc.
91-269 Olai Street
Kapolei, Hawaii 96707

Dear Mr. Tower:

SUBJECT: Covered Source Permit (CSP) No. 0377-01-C
Application for Initial CSP No. 0377-05
Island Commodities, Division of Baker Commodities, Inc.
One (1) 500 HP Boiler and One (1) 150 HP Boiler
Located At: 91-269 Olai Street, Kapolei, Oahu
UTM: Zone 4; 593,616 m E, 2,355,298 m N (NAD-83)
Date of Expiration: DATE

The subject CSP is issued in accordance with Hawaii Administrative Rules (HAR), Title 11, Chapter 60.1. The issuance of this permit is based on the plans, specifications, and information that you submitted as part of your application received on November 14, 2016.

The CSP is issued subject to the conditions/requirements set forth in the following attachments:

Attachment I: Standard Conditions
Attachment II: Special Conditions
Attachment II - INSIG: Special Conditions - Insignificant Activities
Attachment III: Annual Fee Requirements
Attachment IV: Annual Emissions Reporting Requirements

The following forms are enclosed for your use and submittal as required:

Compliance Certification Form
Annual Emissions Report Form: Boilers
Monitoring Report Form: Boilers
Monitoring Report Form: Boiler Tune-Up
Monitoring Report Form: Opacity Exceedances
Biennial Compliance Certification Report Form: Boiler

Mr. Paul Tower
Date
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The following are enclosed for your use in monitoring visible emissions:

Visible Emissions Form Requirements, State of Hawaii
Visible Emissions Form

This permit: (a) shall not in any manner affect the title of the premises upon which the equipment is to be located; (b) does not release the permittee from any liability for any loss due to personal injury or property damage caused by, resulting from or arising out of the design, installation, maintenance, or operation of the equipment; and (c) in no manner implies or suggests that the Department of Health, Clean Air Branch (herein after referred to as Department) or its officers, agents, or employees, assumes any liability, directly or indirectly, for any loss due to personal injury or property damage caused by, resulting from or arising out of the design, installation, maintenance, or operation of the equipment.

If you have any questions, please contact Ms. Liyuan Cao of the Clean Air Branch at (808) 586-4200.

Sincerely,

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

LC:tkg

Enclosures

**ATTACHMENT I: STANDARD CONDITIONS
COVERED SOURCE PERMIT NO. 0377-01-C**

Issuance Date: DATE

Expiration Date: DATE

This permit is granted in accordance with the HAR, Title 11, Chapter 60.1, Air Pollution Control, and is subject to the following standard conditions:

1. Unless specifically identified, the terms and conditions contained in this permit are consistent with the applicable requirement, including form, on which each term or condition is based.

(Auth.: HAR §11-60.1-90)
2. This permit, or a copy thereof, shall be maintained at or near the source and shall be made available for inspection upon request. The permit shall not be willfully defaced, altered, forged, counterfeited, or falsified.

(Auth.: HAR §11-60.1-6; SIP §11-60-11)²
3. This permit is not transferable whether by operation of law or otherwise, from person to person, from place to place, or from one piece of equipment to another without the approval of the Department, except as provided in HAR, Section 11-60.1-91.

(Auth.: HAR §11-60.1-7; SIP §11-60-9)²
4. A request for transfer from person to person shall be made on forms furnished by the Department.

(Auth.: HAR §11-60.1-7)
5. In the event of any changes in control or ownership of the facilities to be constructed or modified, this permit shall be binding on all subsequent owners and operators. The permittee shall notify the succeeding owner and operator of the existence of this permit and its conditions by letter, copies of which will be forwarded to the Department and the U.S. Environmental Protection Agency (EPA), Region 9.

(Auth.: HAR §11-60.1-5, §11-60.1-7, §11-60.1-94)
6. The facility covered by this permit shall be constructed and operated in accordance with the application, and any information submitted as part of the application, for the CSP. There shall be no deviation unless additional or revised plans are submitted to and approved by the Department, and the permit is amended to allow such deviation.

(Auth.: HAR §11-60.1-2, §11-60.1-4, §11-60.1-82, §11-60.1-84, §11-60.1-90)

7. This permit (a) does not release the permittee from compliance with other applicable statutes of the State of Hawaii, or with applicable local laws, regulations, or ordinances, and (b) shall not constitute, nor be construed to be an approval of the design of the covered source.

(Auth.: HAR §11-60.1-5, §11-60.1-82)

8. The permittee shall comply with all the terms and conditions of this permit. Any permit noncompliance constitutes a violation of HAR, Chapter 11-60.1, and the Clean Air Act and is grounds for enforcement action; for permit termination, suspension, reopening, or amendment; or for denial of a permit renewal application.

(Auth.: HAR §11-60.1-3, §11-60.1-10, §11-60.1-19, §11-60.1-90)

9. If any term or condition of this permit becomes invalid as a result of a challenge to a portion of this permit, the other terms and conditions of this permit shall not be affected and shall remain valid.

(Auth.: HAR §11-60.1-90)

10. The permittee shall not use as a defense in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the terms and conditions of this permit.

(Auth.: HAR §11-60.1-90)

11. This permit may be terminated, suspended, reopened, or amended for cause pursuant to HAR, Sections 11-60.1-10 and 11-60.1-98, and Hawaii Revised Statutes (HRS), Chapter 342B-27, after affording the permittee an opportunity for a hearing in accordance with HRS, Chapter 91.

(Auth.: HAR §11-60.1-3, §11-60.1-10, §11-60.1-90, §11-60.1-98)

12. The filing of a request by the permittee for the termination, suspension, reopening, or amendment of this permit, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

(Auth.: HAR §11-60.1-90)

13. This permit does not convey any property rights of any sort, or any exclusive privilege.

(Auth.: HAR §11-60.1-90)

14. The permittee shall notify the Department and U.S. EPA, Region 9, in writing of the following dates:
- a. The **anticipated date of initial start-up** for each emission unit of a new source or significant modification not more than sixty (60) days or less than thirty (30) days prior to such date;
 - b. The **actual date of construction commencement** within fifteen (15) days after such date; and
 - c. The **actual date of start-up** within fifteen (15) days after such date.

(Auth.: HAR §11-60.1-90)

15. The permittee shall furnish, in a timely manner, any information or records requested in writing by the Department to determine whether cause exists for terminating, suspending, reopening, or amending this permit, or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Department copies of records required to be kept by the permittee. For information claimed to be confidential, the Director of Health (Director) may require the permittee to furnish such records not only to the Department but also directly to the U.S. EPA, Region 9, along with a claim of confidentiality.

(Auth.: HAR §11-60.1-14, §11-60.1-90)

16. The permittee shall notify the Department in writing of the **intent to shut down air pollution control equipment for necessary scheduled maintenance** at least twenty-four (24) hours prior to the planned shutdown. The submittal of this notice shall not be a defense to an enforcement action. The notice shall include the following:
- a. Identification of the specific equipment to be taken out of service, as well as its location and permit number;
 - b. The expected length of time that the air pollution control equipment will be out of service;
 - c. The nature and quantity of emissions of air pollutants likely to be emitted during the shutdown period;
 - d. Measures such as the use of off-shift labor and equipment that will be taken to minimize the length of the shutdown period; and
 - e. The reasons why it would be impossible or impractical to shut down the source operation during the maintenance period.

(Auth.: HAR §11-60.1-15; SIP §11-60-16)²

17. **Except for emergencies which result in noncompliance with any technology-based emission limitation in accordance with HAR, Section 11-60.1-16.5, in the event any emission unit, air pollution control equipment, or related equipment malfunctions or breaks down in such a manner as to cause the emission of air pollutants in violation of HAR, Chapter 11-60.1, or this permit, the permittee shall immediately notify the Department of the malfunction or breakdown, unless the protection of personnel or public health or safety demands immediate attention to the malfunction or breakdown and makes such notification infeasible. In the latter case, the notice shall be provided as soon as practicable. Within five (5) working days of this initial notification, the permittee shall also submit, in writing, the following information:**
- a. Identification of each affected emission point and each emission limit exceeded;
 - b. Magnitude of each excess emission;
 - c. Time and duration of each excess emission;
 - d. Identity of the process or control equipment causing the excess emission;
 - e. Cause and nature of each excess emission;
 - f. Description of the steps taken to remedy the situation, prevent a recurrence, limit the excessive emissions, and assure that the malfunction or breakdown does not interfere with the attainment and maintenance of the National Ambient Air Quality Standards and State Ambient Air Quality Standards;
 - g. Documentation that the equipment or process was at all times maintained and operated in a manner consistent with good practice for minimizing emissions; and
 - h. A statement that the excess emissions are not part of a recurring pattern indicative of inadequate design, operation, or maintenance.

The submittal of these notices shall not be a defense to an enforcement action.

(Auth.: HAR §11-60.1-16; SIP §11-60-16)²

18. The permittee may request confidential treatment of any records in accordance with HAR, Section 11-60.1-14.

(Auth.: HAR §11-60.1-14, §11-60.1-90)

19. This permit shall become invalid with respect to the authorized construction if construction is not commenced as follows:

- a. Within eighteen (18) months after the permit takes effect, is discontinued for a period of eighteen (18) months or more, or is not completed within a reasonable time.
- b. For phased construction projects, each phase shall commence construction within eighteen (18) months of the projected and approved commencement dates in the permit. This provision shall be applicable only if the projected and approved commencement dates of each construction phase are defined in Attachment II, Special Conditions, of this permit.

(Auth.: HAR §11-60.1-9, §11-60.1-90)

20. The Department may extend the time periods specified in Standard Condition No. 19 upon a satisfactory showing that an extension is justified. Requests for an extension shall be submitted in writing to the Department.

(Auth.: HAR §11-60.1-9, §11-60.1-90)

21. The permittee shall submit fees in accordance with HAR, Chapter 11-60.1, Subchapter 6.

(Auth.: HAR §11-60.1-90)

22. All certifications shall be in accordance with HAR, Section 11-60.1-4.

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

23. The permittee shall allow the Director, the Regional Administrator for the U.S. EPA and/or an authorized representative, upon presentation of credentials or other documents required by law:

- a. To enter the premises where a source is located or emission-related activity is conducted, or where records must be kept under the conditions of this permit and inspect at reasonable times all facilities, equipment, including monitoring and air pollution control equipment, practices, operations, or records covered under the terms and conditions of this permit and request copies of records or copy records required by this permit; and
- b. To sample or monitor at reasonable times substances or parameters to ensure compliance with this permit or applicable requirements of HAR, Chapter 11-60.1.

(Auth.: HAR §11-60.1-11, §11-60.1-90)

24. Within thirty (30) days of **permanent discontinuance of the construction, modification, relocation, or operation of a covered source covered by this permit**, the discontinuance shall be reported in writing to the Department by a responsible official of the source.

(Auth.: HAR §11-60.1-8; SIP §11-60-10)²

25. Each permit renewal application shall be submitted to the Department and the U.S. EPA, Region 9, no less than twelve (12) months and no more than eighteen (18) months prior to the permit expiration date. The Director may allow a permit renewal application to be submitted no less than six (6) months prior to the permit expiration date, if the Director that there is reasonable justification.

(Auth.: HAR §11-60.1-101; 40 CFR §70.5(a)(1)(iii))¹

26. The terms and conditions included in this permit, including any provision designed to limit a source's potential to emit, are federally enforceable unless such terms, conditions, or requirements are specifically designated as not federally enforceable.

(Auth.: HAR §11-60.1-93)

27. The compliance plan and compliance certification submittal requirements shall be in accordance with HAR, Sections 11-60.1-85 and 11-60.1-86. As specified in HAR, Section 11-60.1-86, the compliance certification shall be submitted to the Department and the U.S. EPA, Region 9, once per year or more frequently, as set by any applicable requirement.

(Auth.: HAR §11-60.1-90)

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. Environmental Protection Agency, Region 9
75 Hawthorne Street, ENF-2-1
San Francisco, CA 94105**

(Auth.: HAR §11-60.1-4, §11-60.1-90)

29. To determine compliance with submittal deadlines for time-sensitive documents, the postmark date of the document shall be used. If the document was hand-delivered, the date received ("stamped") at the Clean Air Branch shall be used to determine the submittal date.

(Auth.: HAR §11-60.1-5, §11-60.1-90)

¹The citations to the Code of Federal Regulations (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.

**ATTACHMENT II: SPECIAL CONDITIONS
COVERED SOURCE PERMIT NO. 0377-01-C**

Issuance Date: DATE

Expiration Date: DATE

In addition to the standard conditions of the CSP, the following special conditions shall apply to the permitted facility:

Section A. Equipment Description

1. This permit encompasses the following boilers and associated equipment:
 - a. Hurst Boiler and Welding Company, Inc., 500 HP boiler, Model No. Hurst Series 200, Serial No. S2500-150-47, Steam Capacity 17,250 lb/hr, Fuel consumption 21 MMBtu/hr (fuel oil No. 2) / 20.7 MMBtu/hr (yellow grease); and
 - b. Hurst Boiler and Welding Company, Inc., 150 HP boiler, Model No. Hurst Series 200, Serial No. W481116-200-1, Steam Capacity 5,175 lb/hr, Fuel Consumption 6.3 MMBtu/hr (fuel oil No. 2)/ 6.21 MMBtu/hr (yellow grease).

(Auth.: HAR §11-60.1-3)
2. An identification tag or nameplate shall be displayed on the boilers listed above to show the applicable model number, serial number, and manufacturer. The identification tag or nameplate shall be permanently attached to the equipment at a conspicuous location.

(Auth.: HAR §11-60.1-5, §11-60.1-90)

Section B. Applicable Federal Regulations

1. The 500 HP boiler is subject to the provisions of the following federal regulations:
 - a. 40 Code of Federal Regulations (CFR) Part 60, Standards of Performance for New Stationary Sources, Subpart A, General Provisions;
 - b. 40 CFR Part 60, Standards of Performance for New Stationary Sources, Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units;
 - c. 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Categories, Subpart A, General Provisions; and
 - d. 40 CFR Part 63, NESHAP for Source Categories, Subpart JJJJJ, NESHAP for Industrial, Commercial, and Institutional Boilers Area Sources.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161, §11-60.1-174; 40 CFR §60.1, §60.40c, §63.1, §63.11193)¹
2. The 150 HP boiler is subject to the provisions of the following federal regulations:
 - a. 40 CFR Part 63, NESHAP for Source Categories, Subpart A, General Provisions; and

- b. 40 CFR Part 63, NESHAP for Source Categories, Subpart JJJJJJ, NESHAP for Industrial, Commercial, and Institutional Boilers Area Sources.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161, §11-60.1-174; 40 CFR §63.1, §63.11193)¹

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

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161, §11-60.1-174; 40 CFR Part 60, Part 63)¹

Section C. Operational and Emissions Limitations

1. The boilers shall only be fired on the following fuels:
 - a. Yellow grease; or
 - b. Fuel oil No. 2 with a sulfur content not to exceed 0.0015% by weight.
2. The stack height of the boilers shall be:
 - a. At least thirty-one feet and 6 inches (31.5 feet) above base elevation for the 500 HP boiler; and
 - b. At least thirty-three (33) feet above base elevation for the 150 HP boiler.
3. For any six (6) minute averaging period, the boilers shall not exhibit visible emissions (VE) of twenty (20) percent opacity or greater, except as follows: during start-up, shutdown, or equipment breakdown, the boilers may exhibit VE not greater than sixty (60) percent opacity for a period aggregating not more than six (6) minutes in any sixty (60) minute period.
4. The permittee shall conduct a tune-up of each boiler biennially in accordance with 40 CFR §63.11223. Each biennial tune-up must be conducted no more than twenty-five (25) months after the previous tune-up. Procedures for conducting boiler tune-ups are specified in Attachment II, Special Condition No. D.3.
5. The permittee shall have a one-time energy assessment performed by a qualified energy assessor for the 500 HP boiler no later than March 21, 2014. The energy assessment shall be performed according to the requirements specified in Attachment II, Special Condition No. D.4.

6. The boilers shall be properly maintained and kept in good operating condition at all times. The permittee shall schedule and perform maintenance as specified by the manufacturer, 40 CFR Part 63, Subpart JJJJJJ, and as needed.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-32, §11-60.1-36, §11-60.1-38, §11-60.1-90; 40 CFR §60.42c, §63.11196, §63.11201, §63.11223; SIP §11-60-24)^{1,2}

Section D. Monitoring and Recordkeeping Requirements

1. Records

All records, including support information, shall be maintained for **at least five (5) years** from the date of the monitoring samples, measurements, tests, reports, 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 made available to the Department or its representative(s) upon request.

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

2. The permittee shall maintain records required by 40 CFR §63.11225(c) and (d) including the following:
 - a. A copy of each notification and report submitted to comply with 40 CFR Part 63, Subpart JJJJJJ, and all documentation supporting any Initial Notification of Applicability or Notification of Compliance Status submitted;
 - b. Records identifying each boiler, the date of tune-up, the procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned;
 - c. A copy of the energy assessment report for the 500 HP boiler;
 - d. Records of the occurrence (including date, time and description) and duration of each malfunction of the boilers;
 - e. Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in §63.11205(a), including corrective actions to restore the malfunctioning boiler to its normal or usual manner of operation; and
 - f. Records must be in a form suitable and readily available for expeditious review. Each record must be kept for five (5) years following the date of each recorded action. Each record must be kept on-site or be accessible from a central location by computer or other means that instantly provide access at the site for at least two (2) years after the date of each recorded action. Records may be kept off site for the remaining three (3) years.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90; 40 CFR §63.11225)¹

3. Boiler Tune-Up

The tune-up must be conducted while burning the type of fuel (or fuels in the case of boilers that routinely burn two types of fuels at the same time) that provided the majority of the heat input to the boiler over the twelve (12) months prior to the tune-up. The tune-up shall be conducted in accordance with 40 CFR §63.11223 as follows:

- a. As applicable, inspect the boilers, and clean or replace any components of the boilers as necessary. The permittee may delay the burner inspection until the next scheduled unit shutdown, not to exceed thirty-six (36) months from the previous inspection.
- b. Inspect the flame pattern, as applicable, and adjust the boilers as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available.
- c. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly. The permittee may delay the inspection until the next scheduled unit shutdown, not to exceed thirty-six (36) months from the previous inspection.
- d. Optimize total emissions of carbon monoxide (CO). This optimization should be consistent with the manufacturer's specifications, if available.
- e. Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.
- f. Maintain on-site a report containing the information:
 - i. The concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boilers;
 - ii. A description of any corrective actions taken as a part of the tune-up of the boilers; and
 - iii. The type and amount of fuel used over the twelve (12) months prior to the tune-up of the boilers, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.
- g. If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within thirty (30) days of startup.

(Auth.: HAR §11-60.1-3, §11-60.1-90; 40 CFR §63.11223)¹

4. 500 HP Boiler Energy Assessment

The energy assessment shall be performed by a qualified energy assessor and must include the following in accordance with 40 CFR §63.11201:

- a. A visual inspection of the boiler system;
- b. An evaluation of operating characteristics of the affected boiler systems, specifications of energy use systems, operating and maintenance procedures, and unusual operating constraints;
- c. An inventory of major energy use systems consuming energy from affected boiler;
- d. A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage;
- e. A list of major energy conservation measures that are within the facility's control;
- f. A list of the energy savings potential of the energy conservation measures identified; and
- g. A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90; 40 CFR §63.11201)¹

5. Fuel Records

Fuel purchase receipts, showing the fuel type, sulfur content (percent by weight for the fuel oil No. 2), date of delivery, and amount (gallons) of fuel delivered for the boilers shall be maintained. Fuel sulfur content may be demonstrated by providing a fuel supplier certification for the type of fuel purchased and received. The fuel supplier certification for fuel oil No. 2 shall include the following information:

- a. The name of the fuel supplier;
- b. A statement from the fuel supplier that the fuel complies with the specification under the definition of distillate oil in 40 CFR §60.41c; and
- c. The sulfur content or maximum sulfur content of the fuel.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90; 40 CFR §60.44c, §60.48c)¹

6. Fuel Consumption Records

The permittee shall maintain a log on the total quantity, in gallons, of yellow grease and fuel oil No. 2 fired in each boiler for each month, for the purposes of annual emissions reporting and boiler tune-ups.

7. Visible Emissions

- a. The permittee shall conduct **monthly** (calendar month) VE observations of the boilers by a certified reader in accordance with 40 CFR Part 60, Appendix A, Method 9, or U.S. EPA approved equivalent methods, or alternative methods with prior written approval from the Department. For each month, two (2) consecutive six (6) minute observations shall be taken at fifteen (15) second intervals.
- b. Records shall be completed and maintained in accordance with the *Visible Emissions Form Requirements*.

(Auth.: HAR §11-60.1-3, §11-60.1-32, §11-60.1-90)

8. Inspection, Maintenance, and Repair Log

An inspection, maintenance, and repair log shall be maintained for each boiler. At a minimum, the following records shall be maintained:

- a. The date of the inspection/maintenance/repair work;
- b. A description of the part(s) inspected or repaired;
- c. A description of the findings and any maintenance or repair work performed; and
- d. The name and title of the personnel performing inspection/work.

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

Section E. Notification and Reporting Requirements

1. Standard Conditions Reporting

Notification and reporting pertaining to the following events shall be done in accordance with Attachment I, Standard Condition Nos. 16, 17, and 24, respectively:

- a. Intent to shut down air pollution control equipment for necessary scheduled maintenance;
- b. Emissions of air pollutants in violation of HAR, Chapter 11-60.1 or this permit (excluding technology-based emission exceedances due to emergencies); and
- c. 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, §11-60-16)²

2. Annual Emissions

- a. As required by Attachment IV and in conjunction with the requirements of Attachment III, Annual Fee Requirements, the permittee shall submit **annually** the total tons per year emitted of each regulated air pollutant, including hazardous air pollutants. The reporting of annual emissions is due **within sixty (60) days following** the end of each calendar year. Completion and submittal of the **Annual Emissions Report Form: Boilers** shall be used for reporting.
- b. Upon the written request of the permittee, the deadline for reporting annual emissions 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)

3. Monitoring Reports

- a. The permittee shall submit **semi-annually** written reports to the Department for the boilers. The 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 enclosed **Monitoring Report Form: Boilers** and **Monitoring Report Form: Opacity Exceedances** shall be used for reporting.
- b. The permittee shall submit within **sixty (60) days** after each biennial tune-up of the boilers the enclosed **Monitoring Report Form: Boiler Tune-Up**, to the Department.

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

4. Biennial Compliance Certification Report

- a. The permittee shall prepare, by March 1 of the year following the calendar year during which a tune-up is completed, the enclosed **Biennial Compliance Certification Report Form: Boilers**. The report shall include a description of deviations, the time periods during which the deviations occurred, and the corrective actions taken;
- b. **Submit the report** to the Department or the U.S. EPA, Region 9 **upon request**; and
- c. **Submit the report** to the Department and the U.S. EPA, Region 9 **by March 15 if there are any deviations** from the applicable requirements of 40 CFR Part 63, Subpart JJJJJJ.

(Auth.: HAR §11-60.1-4, §11-60.1-86, §11-60.1-90; 40 CFR §63.11225)¹

5. Notifications

The permittee shall submit the Notification of Compliance Status for the boilers no later than July 19, 2014. The notification must include the following certifications of compliance that is signed by the responsible official: "This facility complies with the requirements of 40 CFR §63.11214 to conduct an initial tune-up of the boiler," and for the 500 HP Boiler "This facility has had an energy assessment performed according to 40 CFR §63.11214(c)."

The permittee shall submit notification to the U.S. EPA, Region 9, electronically using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written Notification of Compliance Status must be submitted to the U.S. EPA, Region 9, at:

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

(Auth.: HAR §11-60.1-3, §11-60.1-16, §11-60.1-90; 40 CFR §63.11225)²

6. Deviations

The permittee shall report **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)

7. 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. 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 in 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 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)

Section F. Agency Notification

Any document (including reports) required to be submitted by this CSP 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 Code of Federal Regulations (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.

**ATTACHMENT II – INSIG
SPECIAL CONDITIONS – INSIGNIFICANT ACTIVITIES
COVERED SOURCE PERMIT NO. 0377-01-C**

Issuance Date: DATE

Expiration Date: DATE

In addition to the standard conditions of the CSP, 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.

(Auth.: HAR §11-60.1-3)

Section B. Operational Limitations

1. The permittee shall take measures to operate applicable insignificant activities in accordance with the provisions of HAR, Subchapter 2 for 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)

2. The Department 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 Department 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)

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 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 and U.S. EPA, Region 9, the attached **Compliance Certification Form** pursuant to HAR, §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;
6. Brief description of any deviations including identifying as possible exceptions to compliance any periods during which compliance is required and in which the excursion or exceedances as defined in 40 CFR Part 64 occurred; and
7. Any additional information as required by the Department 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 determines that reasonable justification exists for the extension.

In lieu of addressing each emission unit as specified in the **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 CSP shall be done in accordance with Attachment I, Standard Condition No. 28.

(Auth.: HAR §11-60.1-4, §11-60.1-90)

**ATTACHMENT III: ANNUAL FEE REQUIREMENTS
COVERED SOURCE PERMIT NO. 0377-01-C**

Issuance Date: DATE

Expiration Date: DATE

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 be submitted on forms furnished by the Department of Health.
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. 0377-01-C**

Issuance Date: DATE

Expiration Date: DATE

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.

2. The reporting period shall be from January 1 to December 31 of each year. All reports shall be submitted to the Department of Health 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 of Health upon request.
4. Any information submitted to the Department of Health 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 and clearly identifying the specific information that is to be accorded confidential treatment.

**COMPLIANCE CERTIFICATION FORM
COVERED SOURCE PERMIT NO. 0377-01-C
(PAGE 1 OF ___)**

Issuance Date: DATE

Expiration Date: DATE

In accordance with the Hawaii Administrative Rules (HAR), Title 11, Chapter 60.1, Air Pollution Control, the permittee shall report to the Department of Health the following certification at least annually or more frequently as requested by the Department.

(Make Copies for Future Use)

For Period: _____ Date: _____

Company/Facility Name: _____

Responsible Official (Print): _____

Title: _____

Responsible Official (Signature): _____

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 Department of Health as public record. I further state that I will assume responsibility for the construction, modification, or operation of the source in accordance with the HAR, Title 11, Chapter 60.1, Air Pollution Control, and any permit issued thereof.

**COMPLIANCE CERTIFICATION FORM
COVERED SOURCE PERMIT NO. 0377-01-C
(CONTINUED, PAGE 2 OF ____)**

Issuance Date: DATE

Expiration Date: DATE

(Make Copies for Future Use)

The purpose of this form is to evaluate whether or not the facility was in compliance with the permit terms and conditions during the covered period. If there were any deviations to the permit terms and conditions during the covered period, the deviation(s) shall be certified as *intermittent compliance* for the particular permit term(s) or condition(s). Deviations include failure to monitor, record, report, or collect the minimum data required by the permit to show compliance. In the absence of any deviation, the particular permit term(s) or condition(s) may be certified as *continuous compliance*.

Instructions:

Please certify Sections A, B, and C below for continuous or intermittent compliance. Sections A and B are to be certified as a group of permit conditions. Section C shall be certified individually for each operational and emissions limit condition as listed in the Special Conditions section of the permit (list all applicable equipment for each condition). Any deviations shall also be listed individually and described in Section D. The facility may substitute its own generated form in verbatim for Sections C and D.

A. Attachment I, Standard Conditions

<u>Permit term/condition</u>	<u>Equipment</u>	<u>Compliance</u>
All standard conditions	All Equipment listed in the permit	<input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent

B. Special Conditions - Monitoring, Recordkeeping, Reporting, and INSIG

<u>Permit term/condition</u> All monitoring conditions	<u>Equipment</u> All Equipment listed in the permit	<u>Compliance</u> <input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent
<u>Permit term/condition</u> All recordkeeping conditions	<u>Equipment</u> All Equipment listed in the permit	<u>Compliance</u> <input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent
<u>Permit term/condition</u> All reporting conditions	<u>Equipment</u> All Equipment listed in the permit	<u>Compliance</u> <input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent
<u>Permit term/condition</u> All INSIG conditions	<u>Equipment</u> All Equipment listed in the permit	<u>Compliance</u> <input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent

**COMPLIANCE CERTIFICATION FORM
COVERED SOURCE PERMIT NO. 0377-01-C
(CONTINUED, PAGE ___ OF ___)**

Issuance Date: DATE

Expiration Date: DATE

C. Special Conditions - Operational and Emissions Limitations

Each permit term/condition shall be identified in chronological order using attachment and section numbers (e.g., Attachment II-INSIG, B.1, Attachment II, Special Condition No. C.1.d, etc.). Each piece of equipment shall be identified using the description stated in Section A of the Special Conditions (e.g., unit no., model no., serial no., etc.). Check all methods (as required by permit) used to determine the compliance status of the respective permit term/condition.

<u>Permit term/condition</u>	<u>Equipment</u>	<u>Method</u>	<u>Compliance</u>
		<input type="checkbox"/> monitoring <input type="checkbox"/> recordkeeping <input type="checkbox"/> reporting <input type="checkbox"/> testing <input type="checkbox"/> none of the above	<input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent
		<input type="checkbox"/> monitoring <input type="checkbox"/> recordkeeping <input type="checkbox"/> reporting <input type="checkbox"/> testing <input type="checkbox"/> none of the above	<input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent
		<input type="checkbox"/> monitoring <input type="checkbox"/> recordkeeping <input type="checkbox"/> reporting <input type="checkbox"/> testing <input type="checkbox"/> none of the above	<input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent
		<input type="checkbox"/> monitoring <input type="checkbox"/> recordkeeping <input type="checkbox"/> reporting <input type="checkbox"/> testing <input type="checkbox"/> none of the above	<input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent
		<input type="checkbox"/> monitoring <input type="checkbox"/> recordkeeping <input type="checkbox"/> reporting <input type="checkbox"/> testing <input type="checkbox"/> none of the above	<input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent
		<input type="checkbox"/> monitoring <input type="checkbox"/> recordkeeping <input type="checkbox"/> reporting <input type="checkbox"/> testing <input type="checkbox"/> none of the above	<input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent

(Make Additional Copies if Needed)

**COMPLIANCE CERTIFICATION FORM
COVERED SOURCE PERMIT NO. 0377-01-C
(CONTINUED, PAGE ___ OF ___)**

Issuance Date: DATE

Expiration Date: DATE

D. Deviations

<u>Permit Term/ Condition</u>	<u>Equipment / Brief Summary of Deviation</u>	<u>Deviation Period time (am/pm) & date (mo/day/yr)</u>	<u>Date of Written Deviation Report to DOH (mo/day/yr)</u>
		Beginning: Ending:	
		Beginning: Ending:	
		Beginning: Ending:	
		Beginning: Ending:	
		Beginning: Ending:	
		Beginning: Ending:	
		Beginning: Ending:	
		Beginning: Ending:	

*Identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion or exceedance as defined under 40 CFR Part 64 occurred.

(Make Additional Copies if Needed)

**ANNUAL EMISSIONS REPORT FORM
BOILERS
COVERED SOURCE PERMIT NO. 0377-01-C**

Issuance Date: DATE

Expiration Date: DATE

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: _____

Company Name: _____

Facility Name: _____

Equipment Description (including Horsepower Capacity and Serial No. of the units): _____

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: _____ Phone Number: _____

Responsible Official (Signature): _____

Identify all fuels fired in the boilers during the reporting period:

Boiler Description	Type of Fuel Fired	Quantity of Fuel Fired (gallons/year)

**MONITORING REPORT FORM
BOILERS
COVERED SOURCE PERMIT NO. 0377-01-C**

Issuance Date: DATE

Expiration Date: DATE

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: _____

Company Name: _____

Facility Name: _____

Equipment (including horsepower capacity and serial no. of the units): _____

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: _____ Phone Number: _____

Responsible Official (Signature): _____

1. Report the following information for the reporting period:

Boiler Description	Types of Fuel Fired	Maximum % Sulfur Content by Weight

2. Please provide all fuel supplier certifications in accordance with Attachment II, Special Condition No. D.5.

I certify that the records of fuel supplier certifications submitted represent all of the fuel combusted in the two boilers during the report period.

**MONITORING REPORT FORM
BOILER TUNE-UP
COVERED SOURCE PERMIT NO. 0377-01-C
(PAGE 1 OF 2)**

Issuance Date: DATE

Expiration Date: DATE

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 within sixty (60) days after each boiler tune-up:

(Make Copies for Future Use)

For Period: _____ Date: _____

Company Name: _____

Facility Name: _____

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: _____ Phone Number: _____

Responsible Official (Signature): _____

Boiler Description: _____

Date(s) of Boiler Tune-Up: _____

- Report the carbon monoxide (CO) concentrations in the effluent stream in parts per million (ppm), by volume, and oxygen in volume percent, before and after the tune-up of the boiler:

500 HP boiler	
Boiler Before Tune-Up	
CO Concentration (ppm by Volume)	Oxygen (Volume Percent)
Boiler After Tune-Up	
CO Concentration (ppm by volume)	Oxygen (volume percent)

150 HP boiler	
Boiler Before Tune-Up	
CO Concentration (ppm by Volume)	Oxygen (Volume Percent)
Boiler After Tune-Up	
CO Concentration (ppm by volume)	Oxygen (volume percent)

**MONITORING REPORT FORM
BOILER TUNE-UP
COVERED SOURCE PERMIT NO. 0377-01-C
(CONTINUED, PAGE 2 OF 2)**

Issuance Date: DATE

Expiration Date: DATE

2. Report the corrective actions taken as part of the boiler tune-up for the reporting period:

Boiler	Corrective Action Description
500 HP Boiler	
150 HP Boiler	

3. Report the type and amount of fuel used over the twelve (12) months prior to the tune-up of the boiler, but only if the unit was physically and legally capable of using more than one type of fuel during that period:

Boiler	Types of Fuel Fired	Period of Consumption	Total Fuel Consumption	Units of Measure
500 HP Boiler				
150 HP Boiler				

4. Report the type of fuel fired in the boiler during the tune-up:

Boiler	Types of Fuel Fired
500 HP Boiler	
150 HP Boiler	

**BIENNIAL COMPLIANCE CERTIFICATION REPORT FORM
BOILER
COVERED SOURCE PERMIT NO. 0377-01-C**

Issuance Date: DATE

Expiration Date: DATE

In accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, and 40 Code of Federal Regulations (CFR) Part 60, Subpart JJJJJJ, the permittee shall complete and submit this report **at the frequency identified in Attachment II, Special Condition No.E.4.**

(Make Copies for Future Use)

For Period: _____ Date: _____

Company Name: _____

Facility Name: _____

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: _____ Phone Number: _____

E-Mail Address: _____

Responsible Official (Signature): _____

Complete separate forms for each boiler.

Boiler Description: _____

- Provide in the table below, information on whether or not the boilers comply with all relevant standards and other requirements of 40 CFR Part 63, Subpart JJJJJJ:

Boiler Description	Does Boiler Comply with 40 CFR Part 63, Subpart JJJJJJ?		Date of Most Recent Boiler Tune-up
	Yes	No	

- "This facility complies with the requirements of 40 CFR §63.11223 to conduct a Biennial tune-up, as applicable, of the boiler." Yes _____ No _____

**VISIBLE EMISSIONS FORM REQUIREMENTS
STATE OF HAWAII
COVERED SOURCE PERMIT NO. 0377-01-C**

Issuance Date: DATE

Expiration Date: DATE

The ***Visible Emissions (VE) Form*** shall be completed **monthly** (*each calendar month*) for each equipment subject to opacity limits by a certified reader in accordance with 40 CFR Part 60, Appendix A, Method 9, or U.S. Environmental Protection Agency approved equivalent methods, or alternative methods with prior written approval from the Department of Health. The VE Form shall be completed as follows:

1. VE observations shall take place during the day only. The opacity shall be noted in five (5) percent increments (e.g., 25%).
2. Orient the sun within a 140 degree sector to your back. Provide a source layout sketch on the VE Form using the symbols as shown.
3. For VE observations of stacks, stand at least three (3) stack heights but not more than a quarter mile from the stack.
4. For VE observations of fugitive emissions from crushing and screening plants, stand at least 4.57 meters (fifteen (15) feet) from the VE source, but not more than a quarter mile from the VE source.
5. Two (2) consecutive six (6) minute observations shall be taken at fifteen (15) second intervals for each stack or emission point.
6. The six (6) minute average opacity reading shall be calculated for each observation.
7. If possible, the observations shall be performed as follows:
 - a. Read from where the line of sight is at right angles to the wind direction.
 - b. The line of sight shall not include more than one (1) plume at a time.
 - c. Read at the point in the plume with the greatest opacity (without condensed water vapor), ideally while the plume is no wider than the stack diameter.
 - d. Read the plume at fifteen (15) second intervals only. Do not read continuously.
 - e. The equipment shall be operating at the maximum permitted capacity.
8. If the equipment was shut-down for that period, briefly explain the reason for shut-down in the comment column.

The permittee shall retain the completed VE Forms for recordkeeping. 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 of Health, or their representative upon request.

Any required initial and annual performance test performed in accordance with Method 9 by a certified reader shall satisfy the respective equipment's VE monitoring requirements for the month the performance test is performed.

**VISIBLE EMISSIONS FORM
COVERED SOURCE PERMIT NO. 0377-01-C**

Issuance Date: DATE

Expiration Date: DATE

(Make Copies for Future Use for Each Stack or Emission Point)

Company Name: _____

For stacks, describe equipment and fuel: _____

For fugitive emissions from crushers and screens, describe:

Fugitive emission point: _____

Plant Production (tons/hr): _____

(During observation)

Site Conditions:

Emission point or stack height above ground (ft): _____

Emission point or stack distance from observer (ft): _____

Emission color (black or white): _____

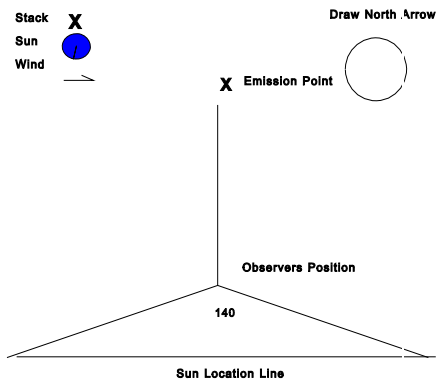
Sky conditions (% cloud cover): _____

Wind speed (mph): _____

Temperature (EF): _____

Observer Name: _____

Certified? (Yes/No): _____



Observation Date and Start Time: _____

MINUTES	Seconds				COMMENTS
	0	15	30	45	
1					
2					
3					
4					
5					
6					
Six (6) Minute Average Opacity Reading (%):					

Observation Date and Start Time: _____

MINUTES	Seconds				COMMENTS
	0	15	30	45	
1					
2					
3					
4					
5					
6					
Six (6) Minute Average Opacity Reading (%):					

Draft Review Summary

**PERMIT APPLICATION REVIEW
COVERED SOURCE PERMIT (CSP) NO. 0377-01-C
Application for Initial Permit No. 0377-05**

Applicant/Facility: Island Commodities (Division of Baker Commodities, Inc.)

Mailing Address: 91-269 Olai Street
Kapolei, Hawaii 96707

Located at: Same as Mailing Address

Facility: Boilers

SIC Code: 2077 (Animal and Marine Fats and Oils)

Responsible Official: Mr. Paul Tower
General Manager
91-269 Olai Street
Kapolei, Oahu, Hawaii 96707
(808) 682-5844

Contact: Mr. James W. Morrow
Consultant
1481 South King Street, Suite 548
Honolulu, Hawaii 96707
(808) 942-9096

Proposed Project

Island Commodities submitted an initial CSP application to install and operate two (2) oil-fired boilers at its existing facility in Kapolei, Hawaii.

The facility renders waste animal tissue into fats that are used to produce inedible products. Two (2) boilers firing yellow grease (waste cooking oil received from off-site) as a primary fuel produce steam for the "cooker" which reduces the meat, fat, and bone to tallow and bone meal. The facility also proposes to burn fuel oil No. 2 with a sulfur content of 0.0015% sulfur by weight. Boiler No. 1 (500 HP) provides steam to the cooker which operates at 250 °F. Odorous air from the cooker is continuously removed by a fan and ducted to a condenser for moisture removal. The dried air is then ducted to Boiler No. 2 (150 HP) for thermal destruction of odorous substances. The product output from the cooker is conveyed to a press where oil (tallow) is pressed out leaving only solid bone meal. The tallow is pumped to heated storage tanks. Odorous vapors from the tanks are ducted to the condenser and then Boiler No. 2 for odor destruction.

The plant also recycles cooking oil (yellow grease) which is screened and then pumped to work tanks which are maintained at 220 °F. The odorous vapors from the heated tanks is ducted to the condenser and then to Boiler No. 2 for odor destruction. Grease trap material is also recycled and goes through the same processes as cooking oil.

The applicant proposed to fire the boilers on yellow grease and fuel oil No.2 with a sulfur content of 0.0015%.

Equipment Description

Boilers	Manufacturer	Model	Serial #	Maximum Steam Production	Capacity	Fuel
Boiler No. 1	Hurst Boiler and Welding Company, Inc. (mfg date 2004)	200	S2500-150-47	17250 lb/hr	500 HP 20.7 ¹ MMBtu/hr 21 ² MMBtu/hr ²	Yellow Grease Fuel Oil No. 2 (max 150 gph)
Boiler No. 2	Hurst Boiler and Welding Company, Inc. (mfg date 2007)	200	W481116-200-1	5175 lb/hr	150 HP 6.21 ¹ MMBtu/hr 6.3 ² MMBtu/hr ²	Yellow Grease Fuel Oil No. 2 (max 45 gph)

¹Fuel heat input capacity with yellow grease is equal to 1,200 Btu/lb steam produced (yellow grease fuel use) times Maximum steam production and divided by 10⁶.

²Fuel heat input capacity with fuel oil No.2 is calculated as MMBtu/hr = gph x .14 MMBtu/gal based on the manufacturer provided gallon/hr fuel consumption rate.

Air Pollution Controls

Sulfur dioxide (SO₂) control is accomplished through the use of yellow grease with a negligible sulfur content or ultra-low sulfur fuel oil.

Applicable Requirements

Hawaii Administrative Rules (HAR)

Chapter 11-59, Ambient Air Quality Standards

Chapter 11-60.1, Air Pollution Control

Subchapter 1, General Requirements

Subchapter 2, General Prohibitions

11-60.1-31, Applicability

11-60.1-32, Visible Emissions

11-60.1-36, Biomass Fuel Burning Boilers

11-60.1-38, Sulfur Oxides from Fuel Combustion

11-60.1-39, Storage of Volatile Organic Compounds

Subchapter 5, Covered Sources

Subchapter 6, Fees for Covered Sources, Noncovered Sources, and Agricultural Burning

11-60.1-111, Definitions

11-60.1-112, General Fee Provisions for Covered sources

11-60.1-113, Application Fees for Covered sources

11-60.1-114, Annual Fees for Covered sources

11-60.1-115, Basis of Annual Fees for Covered Sources

Subchapter 8, New Source Performance Standards

Subchapter 9, Hazardous Air Pollutant Sources

Subchapter 10, Field Citations

New Source Performance Standards – 40 Code of Federal Regulations (CFR) Part 60, Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

40 CFR Part 60, Subpart Dc is applicable to the 500 HP boiler because it is a steam generating unit for which construction is commenced after June 9, 1989, and has a maximum design heat input capacity between ten MMBtu/hr and 100 MMBtu/hr. The 500 HP boiler has a maximum design heat input capacity of 21 MMBtu/hr and was constructed in 2004. The 150 HP boiler is not subject to Subpart Dc because the maximum design heat input capacity of the boiler is less than 10 MMBtu/hour.

National Emission Standards for Hazardous Air Pollutants – 40 CFR Part 63, Subpart JJJJJJ

Hazardous Air Pollutants (HAP) for Industrial, Commercial, and Institutional Boilers Area Sources is applicable because the boilers do not meet the exemption criteria defined in 40 CFR §63.11195.

The two (2) boilers are considered existing sources because the units commenced construction on or before June 4, 2010. The two (2) boilers are subject to biennial tune-ups and the 500 HP boiler is subject to an energy assessment pursuant to 40 CFR §63.11201.

Prevention of Significant Deterioration (PSD) – 40 CFR Part 52, § 52.21

PSD does not apply. The facility is not a listed source in the definition of “major stationary source” of HAR §11-60.1-131 and potential emissions from the facility are less than 250 tons per year, which is the trigger level for a non-listed source.

Best Available Control Technology (BACT)

This facility is not subject to a BACT analysis because the potential to emit for the facility is below significant levels.

Air Emissions Reporting Requirements (AERR) – 40 CFR Part 51 Subpart A

See the AERR/Major Source Applicability table. This plant is not subject to AERR because emissions from the facility do not exceed the AERR’s trigger levels.

Pollutant	Emissions based on 8,760 hours/year	AERR Trigger Level for Type A Sources	AERR Trigger Level for Type B Sources	Major Source Level
	(TPY)	(TPY)	(TPY)	(TPY)
CO	4.27	2500.00	1000.00	100
NO_x	17.08	2500.00	100.00	100
SO₂	0.37	2500.00	100.00	100
PM	1.71	NA	NA	NA
PM₁₀	1.42	250.00	100.00	100
PM_{2.5}	0.71	250.00	100.00	100
VOC	0.47	250.00	100.00	100
HAPS	0.132	NA	NA	25
Lead	1.08E-03	NA	0.50	10
CO_{2e}	NA	NA	NA	NA

Note: Emissions are the maximum potential emissions from the two (2) boilers.

DOH In-House Annual Emissions Reporting

This facility is subject to the CAB in-house annual emissions reporting requirements because it is a covered source.

Synthetic Minor Status

A synthetic minor is a facility that is potentially major (as defined in HAR §11-60.1-1) but is made non-major through federally enforceable permit conditions. This facility is not a synthetic minor based on potential emissions that are less than major source levels when the boilers are operated at their maximum capacity continuously for 8,760 hours per year.

Compliance Assurance Monitoring (CAM) - 40 CFR Part 64

This plant is not subject to CAM because the facility is not a major source. The purpose of CAM is to provide a reasonable assurance that compliance is being achieved with large emissions units that rely on air pollution control device equipment to meet an emissions limit or standard. Pursuant to 40 CFR Part 64, for CAM to be applicable, the emissions unit must:

- (1) Be located at a major source
- (2) Be subject to an emissions limit or standard
- (3) Use a control device to achieve compliance
- (4) Have potential pre-control emissions that are one hundred (100) percent of the major source level
- (5) Not otherwise be exempt from CAM.

Insignificant Activities / Exemptions

Tanks less than 40,000 gallons in capacity are insignificant activities pursuant to HAR §11-60.1-82(f)(1). Eighteen (18) tanks below 40,000 gallons in capacity are listed as follows:

Tank No.	Capacity (gal)	Number of Tanks	Liquid in Storage
1	1100	3	Tallow
2	3200	2	Tallow
3	6000	1	Tallow
4	6500	2	Tallow
5	5000	1	Yellow grease
6	6000	2	Yellow grease
7	8248	1	Yellow grease
8	10000	1	Yellow grease
9	5000	1	Trap grease
10	6500	1	Trap grease
11	8248	1	Trap grease
12	12000	2	Trap grease

Alternative Operating Scenarios

The applicant originally proposed that the firing of fuel oil No. 2 in the boilers be considered an alternate operating scenario. Instead, the permit will reflect that fuel oil No. 2 is one of the fuels allowed to be fired in the boiler.

Project Emissions

The emission calculation was conducted under two (2) different scenarios. One is for boilers burning fuel oil No. 2, and the other is for boilers burning yellow grease. The emission factors used when burning fuel oil No. 2 were based on AP42, Chapter 1.3 Fuel Oil Combustion. The emission factors used when burning yellow grease were based on report “Characterizing Emissions from Combustion of Biofuels” prepared by C. Andrew Miller, U.S. Environmental Protection Agency (EPA) and the paper “A Demonstration of Fat and Grease as Industrial Boiler Fuel” from University of Georgia Engineering Outreach Service. The highest emission rates among the three (3) would be used to calculate the maximum potential annual emissions for all the criteria pollutants. Emissions are based on 8,760 hr/year operation.

Total Facility Emissions

Total Facility Emissions and Trigger Levels (TPY)				
Pollutant	Emissions (No Limits)	BACT Significant Levels	AERR Thresholds	DOH Levels
CO	4.27	100	1000	250
NO _x	17.08	40	100	25
SO ₂	0.37	40	100	25
PM	1.71	25	-	25
PM ₁₀	1.42	15	100	25
PM _{2.5}	0.71	10	100	-
VOC	0.47	40	100	25
HAPs	0.132	-	-	5

Scenario 1: Emissions from two (2) boilers burning fuel oil No. 2

	Value	Unit	Notes
Hour Limit	8,760	hour/year	
Boiler No. 1 Max. Fuel Consumption	150	gal/hour	Manufacturer's data
Boiler No. 2 Max. Fuel Consumption	45	gal/hour	Manufacturer's data
Diesel Fuel No. 2 Sulfur Content	0.0015	%	
Diesel Fuel No. 2 Heating Value	140,000	Btu/gallon	
Boiler No. 1 Heat Input Rate	21	MMBtu/hour	Fuel Consumption x Heating Value
Boiler No. 2 Heat Input Rate	6.3	MMBtu/hour	Fuel Consumption x Heating Value

Pollutant	EF (lb/10 ¹² Btu)	EF ¹ (lb/10 ³ gal)	Boiler No. 1		Boiler No. 2		Total Emissions (TPY)
			Emissions (lb/hr)	Emissions (TPY)	Emissions (lb/hr)	Emissions (TPY)	
CO		5	0.75	3.29	0.23	0.99	4.27
NO _x		20	3.00	13.14	0.90	3.94	17.08
SO ₂		0.213 ²	0.03	0.14	0.01	0.04	0.18
PM		2	0.30	1.31	0.09	0.39	1.71
PM ₁₀		1.08	0.16	0.71	0.05	0.21	0.92
PM _{2.5}		0.83	0.12	0.55	0.04	0.16	0.71
VOC (TOC)		0.556	0.08	0.37	0.03	0.11	0.47

¹EFs from AP-42 Tables 1.3-1, 1.3-3, 1.3-7, 1.3-8, and 1.3-12

²SO₂ EF = 142S, where S = sulfur content (%).

HAP	EF (lb/10 ¹² Btu)	EF (lb/10 ³ gal)	Boiler No. 1		Boiler No. 2		Total
			Emissions (lb/hr)	Emissions (TPY)	Emissions (lb/hr)	Emissions (TPY)	Emissions (TPY)
Polycyclic Organic Matter (POM)		0.0033	4.95E-04	2.17E-03	1.49E-04	6.50E-04	2.82E-03
Formaldehyde (HCOH)		0.061	9.15E-03	4.01E-02	2.75E-03	1.20E-02	5.21E-02
Arsenic (As)	3		8.40E-05	3.68E-04	2.52E-05	1.10E-04	4.78E-04
Beryllium (Be)	9		6.30E-05	2.76E-04	1.89E-05	8.28E-05	3.59E-04
Cadmium (Cd)	3		6.30E-05	2.76E-04	1.89E-05	8.28E-05	3.59E-04
Chromium (Cr)	3		6.30E-05	2.76E-04	1.89E-05	8.28E-05	3.59E-04
Lead (Pb)	6		1.89E-04	8.28E-04	5.67E-05	2.48E-04	1.08E-03
Mercury (Hg)	3		6.30E-05	2.76E-04	1.89E-05	8.28E-05	3.59E-04
Manganese (Mn)	15		1.26E-04	5.52E-04	3.78E-05	1.66E-04	7.17E-04
Nickel (Ni)		0.0033	6.30E-05	2.76E-04	1.89E-05	8.28E-05	3.59E-04
Selenium (Se)		0.061	3.15E-04	1.38E-03	9.45E-05	4.14E-04	1.79E-03
Total HAPs							6.08E-02

Note: EFs from AP-42 Tables 1.3-8, 1.3-9 and 1.3-10

Scenario 2: Emissions from two (2) boilers burning yellow grease

Boiler No.	Horse Power (HP)	Maximum Steam Production Capacity (lb/hr)	Fuel Use ¹ (yellow grease) (Btu/lb steam produced)	Fuel Use (yellow grease) (MMBtu/hr)
1	500	17250	1200	20.7
2	150	5175	1200	6.21

¹The 1,200 BTU/lb of steam is a rounded-up value typically used in boiler design. It is based on the required heat input to generate 1 lb of steam: 180 BTU to bring 1 lb of water to boiling (212 °F) and then another 970 BTU to convert liquid to steam (180 + 970 = 1150 Btu/lb)

a. Emissions calculated based on EPA report

Pollutant	Emission Factor ^{1,2} (lb/MMBTU)	Emission Rate (lb/hr)		Emissions (TPY)		Total Emissions (TPY)
		Boiler No. 1	Boiler No. 2	Boiler No. 1	Boiler No. 2	
CO ¹	3.14E-03	6.50E-02	1.95E-02	0.28	0.09	0.37
NO _x ¹	1.14E-01	2.36E+00	7.08E-01	10.34	3.10	13.44
SO ₂ ¹	3.15E-03	6.52E-02	1.96E-02	0.29	0.09	0.37
PM ²	2.91E-03	6.02E-02	1.81E-02	0.26	0.08	0.34
PM ₁₀ ³	2.91E-03 ³	6.02E-02	1.81E-02	0.26	0.08	0.34
PM _{2.5} ²	1.81E-03	3.75E-02	1.12E-02	0.16	0.05	0.21
VOC	NA					

¹Emission factors for carbon monoxide (CO), nitrogen oxide (NO_x), SO₂ are based on Table 5 from EPA report

²Emission factors for particulate matter (PM), PM_{2.5} are based on Table 5 from EPA report

³Assume emission factors of PM₁₀=PM

Hazardous Air Pollutant	Emission Factors ¹ (lb/MMBtu)	Boiler No. 1 Emission Rate (lb/hr)	Boiler No.2 Emission Rate (lb/hr)	Emissions (tpy)	Emissions (tpy)	Total (tpy)
Formaldehyde	2.95E-04	6.11E-03	1.80E-06	2.67E-02	2.41E-11	2.67E-02
Acetaldehyde	4.34E-05	8.98E-04	3.90E-08	3.93E-03	7.67E-14	3.93E-03
Acetone	4.33E-04	8.96E-03	3.88E-06	3.93E-02	7.62E-11	3.93E-02
Crotonaldehyde	4.06E-06	8.40E-05	3.41E-10	3.68E-04	6.28E-17	3.68E-04
Iso-Valeraldehyde	5.64E-06	1.17E-04	6.58E-10	5.11E-04	1.68E-16	5.11E-04

¹Emission factors are based on Table 10 from EPA report

b. Emissions calculated based on paper from University of Georgia Engineering Outreach Service

Pollutant	Emission Factor ^{1,2} (lb/MMBTU)	Emission Rate (lb/hr)		Emissions (TPY)		Total Emissions (TPY)
		Boiler No. 1	Boiler No. 2	Boiler No. 1	Boiler No. 2	
CO ¹	1.20E-02	2.48E-01	7.45E-02	1.09	0.33	1.42
NO _x ¹	1.27E-01	2.63E+00	7.89E-01	11.51	3.45	14.96
SO ₂ ¹	0.00E+00	0.00E+00	0.00E+00	0.00	0.00	0.00
PM ²	1.20E-02	2.48E-01	7.45E-02	1.09	0.33	1.42
PM ₁₀ ³	1.20E-02 ³	2.48E-01	7.45E-02	1.09	0.33	1.42
PM _{2.5} ²	5.40E-03	1.12E-01	3.35E-02	0.49	0.15	0.64
VOC	NA					

¹Emission factors for CO, NO_x, SO₂ are based on Table 5 from University of Georgia paper

²Emission factors for PM, PM_{2.5} are based on Figure 13 from University of Georgia paper

³Assume emission factors of PM₁₀=PM

Air Quality Assessment

An AAQA was conducted for the two (2) boilers to demonstrate compliance with State and National Ambient Air Quality Standards (SAAQS and NAAQS). The AERMOD modeling system (v19191) incorporated in Lakes Environmental's AERMOD View, Version 9.8.1 software, was used for the modeling analysis.

Terrain

Terrain data encompassing the entire modeling domain from the USGS National Elevation Dataset in GEOTIFF format, with a one (1) arc-second resolution (approximately thirty (30) meters) was used in the modeling analysis.

Meteorological Data

An AERMOD ready, five (5) year meteorological dataset from 2014 to 2018 for the Daniel K. Inouye International Airport was used for the modeling analysis.

Receptor Grid

One (1) receptor grid totaling 1,225 receptors was used in the modeling analysis. The receptor grid was centered on Boiler No. 1 and was 1.02km by 1.02km in size with 30m spacing. The maximum modeled concentrations of all pollutants were within the receptor grid.

Dispersion Coefficient

Rural dispersion coefficient was selected.

Building Downwash

EPA's Building Profile Input Program (BPIP-PRIME) was used to evaluate downwash effects of nearby structures.

Emission Rates and Stack Parameters

The short-term emission rates and stack parameters used in the modeling analysis are shown in the tables below:

Boiler	Stack Height (m)	Stack Inside Diameter (m)	Velocity (m/s)	Stack Flow Rate (m ³ /s)	Temp (°K)	Direction	Capped
500 HP	9.6	0.61	13.76	4.02	466	u	n
150 HP	10.06	0.51	29.34	5.99	427	u	n

Stack No.	Source	UTM: Zone 4 NAD-83		Emission Rates (lb/hr)				
		Easting	Northing	CO	NO _x	PM ₁₀	PM _{2.5}	SO ₂
1	Boiler No. 1	593,616 m E	2355298 m N	0.095	0.378	0.031	0.016	0.008
2	Boiler No. 2	593,608 m E	2355297 m N	0.028	0.113	0.009	0.005	0.002

Results

The table below demonstrates that the predicted ambient air quality impacts from the operation of the two (2) boilers will comply with SAAQS and NAAQS. The modeling analysis was conservatively conducted for PM_{2.5}, PM₁₀, CO, and SO₂ using AERMOD View's, Multi-Chemical utility. The special processing for PM_{2.5}, PM₁₀, and SO₂ was not conducted in the modeling analysis. The first highest concentrations for PM_{2.5}, PM₁₀, CO, and SO₂ were used for comparison against the SAAQS and NAAQS.

Nitrogen dioxide (NO₂) was evaluated by using the ozone limiting method (OLM) with five (5) year Hourly Background Ozone dataset from 2014 to 2018. An Equilibrium NO₂/ NO_x of 0.9 and a Default In-Stack NO₂/ NO_x of 0.2 were the OLM options used.

Background concentrations were from the State of Hawaii, Air Quality Data Summary: 2017-2019. Concentrations from the following State and Local Air Monitoring Stations (SLAMS) were used:

Monitoring Station	Pollutant	Averaging period	Background Concentration Reference
Kapolei	CO	1-hr	1st high
		8-hr	1st high
Kapolei	NO ₂	1-hr	3-Year Average of the 98%ile
		Annual	Annual Mean
Kapolei	PM ₁₀	24-hr	1st high
		Annual	Annual Mean
Kapolei	PM _{2.5}	24-hr	3-Year Average of the 98%ile
		Annual	3-Year Average
Kapolei	SO ₂	1-hr	3-Year Average of the 99%ile
		3-hr	1st high
		24-hr	1st high
		Annual	Annual Mean

The AAQA demonstrates compliance with SAAQS and NAAQS.

Air Pollutant	Averaging Period	Modeled Impact (µg/m ³)	Background (µg/m ³)	Total Impact (µg/m ³)	SAAQS (µg/m ³)	NAAQS (µg/m ³)	Compared to SAAQS / NAAQS
CO	1-hr	54.7	1,031	1,086	10000	40000	10.86%
	8-hr	47.7	344	392	5000	10000	7.83%
NO ₂	1-hr	53.9	55.3	109.2	-	188	58.09%
	Annual	16.2	8	24.2	70	100	34.57%
PM ₁₀	24-hr	14.8	42	56.8	150	150	37.87%
	Annual	1.3	12	13.3	50	-	26.60%
PM _{2.5}	24-hr	7.4	7.8	15.2	-	35	43.43%
	Annual	0.7	2.9	3.6	-	12	30.00%
SO ₂	1-hr	4.76	16	20.5	-	196	10.44%
	3-hr	4.4	33	37.4	1300	1300	2.88%
	24-hr	3.9	11	14.9	365	365	4.08%
	Annual	0.4	2	2.4	80	80	3.00%

Significant Permit Conditions

1. The two (2) boilers shall only be fired on the following fuels:
 - a. Yellow grease; and
 - b. Fuel oil No. 2 with an ultra-low sulfur content not to exceed 0.0015% by weight.

2. The stack height for boiler No. 1 shall be at least thirty-one feet and six inches (31.5 feet) above base elevation.
3. The stack height for boiler No. 2 shall be at least thirty-three (33) feet above base elevation.

Reason for 1 through 3: These conditions were incorporated into the permit based on what was proposed by the applicant for operating the boilers. At the proposed stack heights, the applicant has demonstrated that the boilers would be in compliance with the ambient air quality standards.

4. Specify 40 CFR Part 63, Subpart JJJJJJ, requirements for the boilers, which include:
 - a. Biennial tune-ups for both the boilers; and
 - b. One-time energy assessment for the 500 HP boiler.

Reason for 4: These conditions are kept pursuant to 40 CFR Part 63, Subpart JJJJJJ.

Conclusion

Maximum potential emissions were based on worst-case conditions (maximum rated capacity of the boilers). Actual emissions from the units will vary depending on operating load. Recommend issuance of the CSP subject to the significant permit conditions, thirty-day (30-day) public comment period, and forty-five-day (45-day) review by EPA.

LC
July 13, 2021

**Application
and
Supporting Information**

HAND DELIVERED
NOV 14 2016
#0277-25
SCANNED
a
JH

J. W. MORROW
Environmental Management
Consultant

November 11, 2016

Ms. Catherine Lopez, P.E.
Acting Manager, Clean Air Branch
Department of Health
919 Ala Moana Boulevard, Room 203
Honolulu, Hawaii 96814

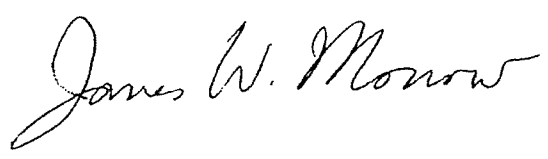
Dear Ms. Lopez:

Subject: Application for an Initial Covered Source Permit
Island Commodities

We are submitting herewith for your review and action the subject permit application. A check in the amount of \$1,000 for the required application fee is also enclosed.

Please have your staff contact me at 942-9096 with any questions pertaining to this submittal.

Sincerely,



James W. Morrow, DrPH

JWM:jm
161111

Enclosures

cf: Island Commodities

SERVING HAWAII AND THE PACIFIC SINCE 1974

1481 South King Street, Suite 548, Honolulu, Hawaii 96814
Telephone: (808) 942-9096 E-mail: jwmorrow@att.net

MD35400

**APPLICATION FOR AN INITIAL
COVERED SOURCE PERMIT**

*500 HP Oil-Fired Boiler
150 HP Oil-Fired Boiler*

SUBMITTED TO:

**State of Hawaii
Department of Health
Clean Air Branch**

SUBMITTED BY:

**Island Commodities
Division of Baker Commodities, Inc.
91-269 Olai Street
Kapolei, HI 96707**

November 2016

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2	Form S-2 -	Application for an Initial Covered Source Permit
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4	Form C-2 -	Compliance Certification
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FORM S-1

S-1: Standard Air Pollution Control Permit Application Form
(Covered Source Permit and Noncovered Source Permit)

State of Hawaii
Department of Health
Environmental Management Division
Clean Air Branch
P.O. Box 3378 • Honolulu, HI 96801-3378 • Phone: (808) 586-4200

1. Company Name: Island Commodities (Divison of Baker Commodities, Inc.)
2. Facility Name (if different from the Company): _____
3. Mailing Address: 91-269 Olai Street
City: Kapolei State: HI Zip Code: 96707
Phone Number: (808) 682-5844
4. Name of Owner/Owner's Agent: J. W. Morrow
Title: Environmental Management Consultant Phone: (808) 942-9096
Mailing Address: 1481 South King Street, Suite 548
City: Honolulu State: HI Zip Code: 96814
5. Plant Site Manager/Other Contact: John Tsukada
Title: Division General Manager Phone: (808) 682-5844
Mailing Address: 91-269 Olai Street
City: Kapolei State: HI Zip Code: 96707
6. Permit Application Basis: (Check all applicable categories.)
 Initial Permit for a New Source Initial Permit for an Existing Source
 Renewal of Existing Permit General Permit
 Temporary Source Transfer of Permit
 Modification to a Covered Source: → Is Modification? Significant Minor Uncertain
 Modification to a Noncovered Source
7. If renewal or modification, include existing permit number: _____
8. Does the Proposed Source require a County Special Management Area Permit? Yes No
9. Type of Source (Check One): Covered Source Covered and PSD Source
 Noncovered Source Uncertain
10. Standard Industrial Classification Code (SICC), if known: 2077

1. INTRODUCTION

Island Commodities (the "Applicant") is proposing to install and operate two (2) oil-fired boilers at its existing facility in Honolulu.

As part of the regulatory requirements to make these changes, the Applicant is submitting herein an Application for an Initial Covered Source Permit pursuant to Hawaii Administrative Rules (HAR) Chapter 11-60.1. The application begins with a brief summary of the method used in determining the applicability followed by sections providing all other information specified in the Department of Health (DOH) rules and application Forms S-1, S-2, C-1 and C-2.

2. APPLICABILITY

The first step in the HAR Chapter 11-60.1 permitting process is to determine which provisions of the rules apply to a given source. This applicability analysis is based on a calculation of estimated annual emissions from the proposed source or modification to a source. These calculations must be based on the potential to emit (PTE) of the individual source or modification in question. Federal new source performance standards (CAA §111) and national emissions standards for hazardous air pollutants (NESHAPs) (CAA §112) are also criteria for determining applicability of Chapter 11-60.1. Significant changes to existing permit conditions can also trigger a permit modification requirement.

In this instance, the proposed facility will be subject to CAA §111 (40 CFR 60, Subpart Dc) due to the 20.7 MMBTU/hr rating of one of the boilers and thus must be permitted as a Covered Source. The projected emissions associated with the proposed boilers do not trigger a BACT requirement under HAR 11-60.1.

3. FORM S-1 INFORMATION

a. Emissions Units Table. The required Emissions Units Table information is provided in Table S-1.1.

b. Process Flow Diagram. The process is self-evident as liquid fuel is burned to release the energy necessary to convert water to steam.

c. Description of Emissions Points. The only point sources are the boiler exhaust stacks.

d. Emission Calculations. The emissions shown in Tables S-1.1 were calculated based on manufacturer's specs and the latest AP-42 emission factors. Calculations are provided in Appendix A.

e. Facility Location Map. Figure S-1.1 depicts the project location.

COMPANY NAME: Island Commodities

File No. _____

LOCATION: Kapolei, HI

(Make as many copies of this page as necessary)

TABLE S-1.1

EMISSIONS UNITS TABLE

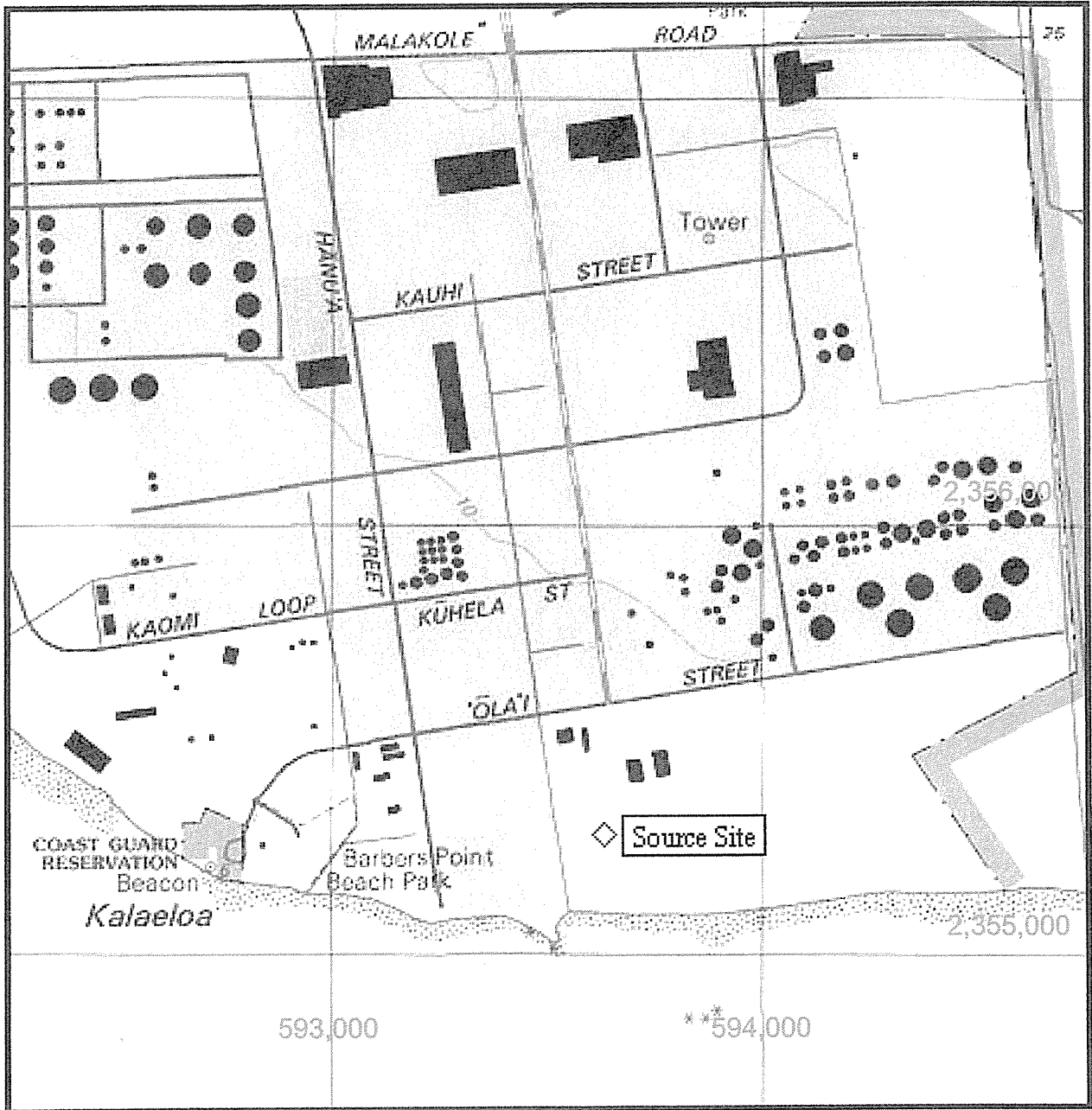
Review of applications and issuance of permits will be expedited by supplying all necessary information on this table.

Stack No.	AIR POLLUTANT DATA: EMISSION POINTS			AIR POLLUTANT		AIR POLLUTANT EMISSION RATE		UTM Zone: 4 Horizontal Datum: NAD-83		Stack Source Parameters					
	Unit No.	Equipment Name/Description and SICC Number	Equip. Date	Regulated/ Hazardous Air Pollutant Name & CAS#	#/hr	Tons /yr	Coordinates (meters)	Stack Height (m)	Direction (u,d,h) ^b	Inside Diameter (m)	Velocity (m/s)	Actual Flow Rate (m ³ /s)	Temp (°K)	Capped? (Y/N)	
S-1	U-1	500 HP Hurst Boiler (yellow grease fired)	Nov-16	SO2	5.47E-03	2.39E-02	East	9.60	U	0.610	13.57	3.96	466	N	
					2.81	12.3	North								
					0.60	2.61	East								
					2.68	11.72	North								
					2.68	11.72	East								
					1.20	5.27	North								
					0.05	0.24	East								
							North								
							East								
							North								
S-2	U-2	150 HP Hurst Boiler (yellow grease fired)	Nov-16	SO2	1.64E-03	7.17E-03	East	10.06	U	0.508	29.13	5.90	427	N	
					0.84	3.7	North								
					0.18	0.78	East								
					0.80	3.51	North								
					0.80	3.51	East								
					0.36	1.58	North								
					0.02	0.07	East								
							North								
							East								
							North								

(a) Specify UTM Horizontal Datum as Old Hawaiian, NAD-83, or NAD-27

(b) Specify the direction of the stack exhaust as u= upward, d= downward, or h = horizontal

FIGURE S-1.1
SOURCE LOCATION



USGS Quad Ewa (1998)
1:24,000 (NAD-83)

FORM S-2

I. In accordance with Chapter 11-60.1, §11-60.1-83, the following information is provided:

A. Equipment Specifications: See Table S-2.1. Manufacturer's literature may be found in Appendix B.

TABLE S-2.1
EQUIPMENT SPECIFICATIONS

Parameter	Hurst 500 HP Boiler	Hurst 150 HP Boiler
Serial Number	S2500-150-47	W481116-200-1
Maximum design capacity	17,250 lb/hr steam	5,175 lb/hr steam
Fuel type	yellow grease	yellow grease
Fuel use	20.7 MMBTU/hr	6.2 MMBTU/hr
Production capacity	17,250 lb/hr steam	5,175 lb/hr steam
Production rates	17,250 lb/hr steam	5,175 lb/hr steam
Raw materials	yellow grease, water	yellow grease, water

B. Process Description, Operating Scenarios, Air Pollution Control

1. Process Description This is an independent plant that performs an inedible rendering process. Two (2) boilers firing yellow grease (waste cooking oil) produce steam for the "cooker" which reduces the meat, fat and bone to tallow and bone meal. Boiler #1 (500 HP) provides steam to the cooker which operates at 250 °F and has a capacity of three (3) tons per hour. Odorous air from the cooker is continuously removed by a fan and ducted to a condenser for moisture removal. The dried air is then ducted to Boiler #2 (150 HP) for thermal destruction of odorous substances. The product output from the cooker is conveyed to a press where oil (tallow) is pressed out leaving only solid bone meal. The tallow is pumped to heated storage tanks. Odorous vapors from the tanks are ducted to the condenser and then to Boiler #2 for odor destruction.

The plant also recycles cooking oil (yellow grease) which is screened and then pumped to work tanks which are maintained at ~220 °F. The odorous vapors from the heated tanks is ducted to the

aforementioned condenser and then to Boiler #2 for odor destruction. Grease trap material is also recycled and goes through the same process as cooking oil.

2. Alternate Operating Scenario. The alternate operating scenario would be firing the boilers on No. 2 fuel oil with 0.0015% sulfur content.

3. Air Pollution Control.

a. SO₂: SO₂ control is accomplished through the use of yellow grease with a negligible sulfur content or ultra low sulfur fuel oil.

b. NO_x: NO_x control is accomplished by inherent burner design, maintenance and proper operating conditions.

c. PM: PM emissions are controlled by the inherently low ash (metals) content of the liquid fuels fired. Control is also accomplished by proper combustion conditions to assure maximum oxidation of fuels to CO₂ and H₂O.

d. CO: CO is controlled by proper combustion conditions to assure maximum oxidation of carbon to CO₂.

e. VOC: VOCs are also controlled by proper combustion conditions to assure maximum oxidation of carbon and hydrogen to CO₂ and H₂O.

4. Insignificant Activities. The following storage tanks are onsite:

- a. Tallow: 1100 gal (3 ea), 3200 gal (2 ea), 6000 gal (1 ea), 6500 gal (2 ea)
- b. Yellow grease: 5000 gal (1 ea), 6000 gal (2 ea), 8248 gal (1 ea), 10000 gal (1 ea)
- c. Trap grease: 5000 gal (1 ea), 6500 gal (1 ea), 8248 gal (1 ea), 12000 gal (2 ea)

C. Operating Schedule. Typical operations are 8-10 hr/da, 5 da/wk, 52 wk/yr.

D. Applicable Requirements.

- (1) 40 CFR 50, NAAQS
- (2) 40 CFR 60, Subparts A and Dc
- (3) 40 CFR 63, Subparts A and JJJJJ
- (4) HAR, Chapt. 11-59, HAAQS
- (5) HAR §11-60.1-2, prohibition of air pollution

- (6) HAR §11-60.1-11, sampling, testing & reporting
- (7) HAR §11-60.1-32(b), visible emissions
- (8) HAR §11-60.1-38, sulfur oxides
- (9) HAR §11-60.1, Subchapter 5, Covered Sources

E. Operational Limitations/Work Practices.

If the Alternate Operating Scenario is initiated, the sulfur content of No. 2 fuel oil fired in the boiler shall not exceed 0.0015% by weight.

F. Construction Schedule. N/A

G. Emissions Trading. N/A

H. Air Quality Impact Assessment.

A modeling analysis was performed for the proposed boilers using EPA's AERMOD model (ver. 15181), AERMET (ver. 15181), and AERMAP (ver. 11103) with USGS NED data. Five (5) years (2010- 2014) of meteorological (ISHD) data from the Honolulu International Airport were used for all analyses.

In the particular case of 1-hr NO₂, the ozone limiting method (OLM) was used with five (5) year of ozone (O₃) monitoring data (2010 – 2014). In addition background NO₂ concentrations were based on a 3-year average of the 98th percentile 1-hour monitoring data from Kapolei (2012 – 2014), in accordance with EPA's guidance memorandum of March 1, 2011 (see Table S-12.1)

The 1-hour NO₂ and SO₂ model output were divided by 1.88 and 2.616, respectively to convert from µg/m³ to parts per billion (ppb), The results are summarized in Tables S-8.2 and indicate compliance with ambient air quality standards. Digital I/O data files will be provided under separate cover.

I. PSD Requirements. N/A

J. Emissions Trading. N/A

K. Compliance Forms. The required Forms C-1 and C-2 are included at Tabs 3 and 4, respectively.

II. APPLICATION FEE

The required application fee of \$1,000 is enclosed.

TABLE S-2.2

98th PERCENTILE 1-HR NO₂ BY HOUR-OF-DAY
(Kapolei Monitoring Station)

<u>HOUR</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>3-YR AVG</u>
1	10	10	10.3	10
2	9	11	9.1	10
3	8	8	8.7	8
4	9	9	9.2	9
5	9	10	8.9	9
6	13	15	14	14
7	17	19	20.1	19
8	19	21	23	21
9	15	16	19	17
10	8	11	9.7	10
11	9	10	11	10
12	7	10	7.9	8
13	7	9	7.2	8
14	6	10	8.5	8
15	8	7	9	8
16	7	8	7.6	8
17	7	7	9.7	8
18	7	7	8.8	8
19	9	9	9	9
20	11	10	11.3	11
21	10	10	11	10
22	12	11	12	12
23	12	11	12.4	12
24	12	12	10.5	12

Source: U.S. EPA AQS Data Mart, 2016

TABLE S-2.3
AERMOD MODELING RESULTS

Pollutant	Averaging Period	Concentration			
		AQ Standards	Model Result	Background	Total
SO ₂	1-hr*	75	0.13	12	12.1
	3-hr	1,300	0.33	34	34
	24-hr	375	0.25	13	13.3
	Annual	80	0.03	5.2	5.2
NO ₂	1-hr*	100	63.3	6.9	70.2
	Annual	70	32	7.5	39.5
PM ₁₀	24-hour	150	20.1	32	52.1
	Annual	50	2.1	15	17.1
PM _{2.5}	24-hour	35	4.7	13	17.7
	Annual	15	0.9	4.6	5.5
CO	1-hr	10,000	40.9	1,602	1,643
	8-hr	5,000	33.2	1,487	1,520

Notes: All concentrations are in $\mu\text{g}/\text{m}^3$ except 1-hr SO₂ and 1-hr NO₂ which are in ppb (*).
Background data from DOH Kapolei monitoring site (CY 2014).

File No. _____

FORM C-1

C-1: Compliance Plan

The Responsible Official shall submit a Compliance Plan as indicated in the Instructions for Applying for an Air Pollution Control Permit and at such other times as requested by the Director of Health (hereafter, Director).

Use separate sheets of paper if necessary.

1. Compliance status with respect to all Applicable Requirements:

Will your facility be in compliance, or is your facility in compliance, with all applicable requirements in effect at the time of your permit application submittal?

- YES {If YES, complete items a and c below}
- NO {If NO, complete items a, b, and c below}

a. Identify all applicable requirement(s) for which compliance is achieved.

HAR Chapt. 11-59, HAAQS	40 CFR 60, Subparts A & Dc
HAR 11-60.1-11, sampling, testing & reporting	HAR 11-60.1-31, applicability
HAR 11-60.1-32(b), visible emissions	HAR 11-60.1-38, sulfur oxides
HAR 11-60.1, Subchapt. 5, Covered Sources	HAR 11-60.1, Subchapt. 6, Fees
HAR 11-60.1, Subchapt. 10, Field Citations	40 CFR 63, Subparts A & JJJJJ

Provide a statement that the source is in compliance and will continue to comply with all such requirements. To the best of my knowledge and belief, the proposed 500 HP and 150 HP boilers will be designed and operated to maintain compliance with the aforementioned applicable requirements.

b. Identify all applicable requirement(s) for which compliance is NOT achieved.

N/A

Provide a detailed Schedule of Compliance Schedule and a description of how the source will achieve compliance with all such applicable requirements.

<u>Description of Remedial Action</u>	<u>Expected Date of Completion</u>
N/A	

- c. Identify any other applicable requirement(s) with a future compliance date that your source is subject to. These applicable requirements may take effect AFTER permit issuance:

<u>Applicable Requirement</u>	<u>Effective Date</u>	<u>Currently in Compliance?</u>
N/A		

If the source is not currently in compliance, provide a Schedule of Compliance and a description of how the source will achieve compliance with all such applicable requirements:

<u>Description of Proposed Action/Steps to Achieve Compliance</u>	<u>Expected Date of Achieving Compliance</u>
N/A	

Provide a statement that the source on a timely basis will meet all these applicable requirements:

N/A

If the expected date of achieving compliance will NOT meet the applicable requirement's effective date, provide a more detailed description of each remedial action and the expected date of completion:

<u>Description of Remedial Action and Explanation</u>	<u>Expected Date of Completion</u>
N/A	

2. Compliance Progress Reports:

- a. If a compliance plan is being submitted to remedy a violation, complete the following information:

Frequency of Submittal: _____ Beginning Date: _____
(less than or equal to 6 months)

b. Date(s) that the Action described in (1)(b) was achieved:

<u>Remedial Action</u>	<u>Date Achieved</u>
N/A	

c. Narrative description of why any date(s) in (1)(b) was not met, and any preventive or corrective measures taken in the interim:

N/A

RESPONSIBLE OFFICIAL

(as defined in HAR §11-60.1-1)

Name (Last): Tsukada (First): John (MI): K

Title: Division General Manager Phone: (808) 682-5844

Mailing Address: 91-269 Olai Street

City: Kapolei State: HI Zip Code: 96707

Certification by Responsible Official

(pursuant to HAR §11-60.1-4)

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. I further state that I will assume responsibility for the construction, modification, or operation of the source in accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, and any permit issued thereof.

Name (Print/Type): John K. Tsukada

(Signature):  Date: 11/7/11

Facility Name: 500 HP & 150 HP Steam Boilers

Location: 91-269 Olai Street

Permit Number: _____

FOR AGENCY USE ONLY
File/Application No.: _____
Island: _____
Date Received: _____

File No. _____

FORM C-2

C-2: Compliance Certification

The Responsible Official shall submit a Compliance Certification as indicated in the Instructions for Applying for an Air Pollution Control Permit and at such other times as requested by the Director of Health (hereafter, Director).

Complete as many copies of this form as needed. Use separate sheets of paper if necessary.

RESPONSIBLE OFFICIAL

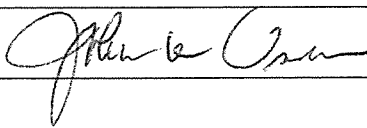
(as defined in HAR §11-60.1-1)

Name (Last): Tsukada (First): John (MI): K
 Title: Division General Manager Phone: (808) 682-5844
 Mailing Address: 91-269 Olai Street
 City: Kapolei State: HI Zip Code: 96707

Certification by Responsible Official

(pursuant to HAR §11-60.1-4)

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. I further state that I will assume responsibility for the construction, modification, or operation of the source in accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, and any permit issued thereof.

Name (Print/Type): John K. Tsukada
 (Signature):  Date: 11/7/16

Facility Name: 500 HP & 150 HP Steam Boilers
 Location: 91-269 Olai Street
 Permit Number: _____

FOR AGENCY USE ONLY

File/Application No.: _____

Island: _____

Date Received: _____

Complete the following information for **each** applicable requirement that applies to **each** emissions unit at the source. Also include any additional information as required by the Director. The compliance certification may reference information contained in a previous compliance certification submittal to the Director, provided such referenced information is certified as being current and still applicable.

1. Schedule for submission of Compliance Certifications during the term of the permit:

Frequency of Submittal: Annually Beginning Date: 2017

2. Emissions Unit No./Description: 500 HP Hurst oil-fired boiler, 150 HP Hurst oil-fired boiler

3. Identify the applicable requirement(s) that is/are the basis of this certification:

HAR, Chapt. 11-59, HAAQS 40 CFR 50, NAAQS

HAR §11-60.1-11, sampling, testing & reporting HAR §11-60.1-31, applicability

HAR §11-60.1-32(b), visible emissions HAR §11-60.1-38, sulfur oxides

HAR Chapt. 11-60.1, Subchapter 5, Covered Sources HAR Chapt. 11-60.1, Subchapt. 6, Fees

HAR Chapt. 11-60.1, Subchapt. 10, Field Citations 40 CFR 60, Subparts A and Dc

40 CFR 63, Subparts A and JJJJJ

4. Compliance status:

- a. Will the emissions unit be in compliance with the identified applicable requirement(s)?

YES NO

- b. If YES, will compliance be continuous or intermittent?

Continuous Intermittent

- c. If NO, explain.

5. Describe the methods to be used in determining compliance of the emissions unit with the applicable requirement(s), including any monitoring, recordkeeping, reporting requirements, and/or test methods:

Monitoring, recordkeeping, and reporting

Provide a detailed description of the methods used to determine compliance: (e.g., monitoring device type and location, test method description, or parameter being recorded, frequency of recordkeeping, etc.)

Monitoring:

- a. Monthly visible emissions will be observed and recorded

Recordkeeping

- b. Records of operating hours will be maintained.
- c. Records of steam production will be maintained.
- d. Records of monthly fuel use will be maintained.
- e. Certificates of analysis indicating fuel sulfur content will be maintained for all fuel deliveries.
- f. Records of monthly V.E. observations will be maintained.
- g. Records will be maintained on all inspections, maintenance, and repair work done on the permitted
- h. Copies of tune-up reports will be maintained.

Reporting

- i. Annual Emissions Report Form will be submitted.
- j. An annual compliance certification will be submitted.

Tune-ups

- k. Bienniel and 5-year tune-ups will be conducted in accordance with 40 CFR 63, Subpart JJJJJ

6. Statement of Compliance with Enhanced Monitoring and Compliance Certification Requirements.

- a. Will the emissions unit identified in this application be in compliance with applicable enhanced monitoring and compliance certification requirements?

N/A YES NO

- b. If YES, identify the requirements and the provisions being take to achieve compliance:

- c. If NO, describe below which requirements will not be met:

APPENDIX A
CALCULATIONS

**EMISSIONS CALCULATIONS
FIRING YELLOW GREASE
(lb/MMBTU)**

Source	Emission Rate (lb/MMBTU)						
	NOx	SO2	CO	PM/TSP	PM10	PM2.5	THC
Baker ¹	0.1342	6.92E-04	0.0008	0.0152	0.0152	0.0068	0.0003
HC&S ²	0.1461	1.00E-04	0.07347	0.03607	0.0361	0.0162	0.0076
U.Georgia ³	0.127	0	0.012	0.012	0.012	0.0054	n/a
Mean:	0.1358	2.64E-04	0.0288	0.0211	0.0211	0.0095	0.0026

Sample Calculations:

	HC&S	U.Georgia
HHV (MMBTU/gal):	123794	125389

(using the lower HHV value produces higher emission rate)

NOx: Baker NOx lb/hr / (gph x BTU/gal / 1E^6) = lb/MMBTU
(calculated) 3.49 / (210 x 123794 / 1E^6) = 0.1342

HC&S reported
U. Georgia reported

- Refs:
1. Baker Commodities, Inc.
 2. HC&S report (2002)
 3. Univ. of Georgia report (2002)
 4. AP-42, Appendix B-2

**EMISSIONS CALCULATIONS
FIRING YELLOW GREASE
(lb/hr, T/yr, g/sec)**

Source	Units	Emission Rate						
		NOx	SO2	CO	PM/TSP	PM10	PM2.5	THC
500 HP	lb/hr	2.81	5.47E-03	0.60	0.44	0.44	0.20	0.05
	T/yr	12.3	2.39E-02	2.6	1.9	1.9	0.9	0.24
	g/sec	0.3541	6.89E-04	0.0750	0.0550	0.0550	0.0247	0.0068
150 HP	lb/hr	0.84	1.64E-03	0.18	0.13	0.13	0.06	0.02
	T/yr	3.7	7.17E-03	0.8	0.6	0.6	0.3	0.07
	g/sec	0.1061	2.06E-04	0.0225	0.0165	0.0165	0.0074	0.0020

Sample Calculations:

Boiler Rate 500 HP: $500 \text{ HP} \times 34.5 = 17250 \text{ lb/hr steam}$
 $17250 \text{ lb/hr} \times 1200 \text{ BTU/lb} / 1\text{E}6 = 20.7 \text{ MMBTU/hr}$

150 HP: $150 \text{ HP} \times 34.5 = 5175 \text{ lb/hr steam}$
 $5175 \text{ lb/hr} \times 1200 \text{ BTU/lb} / 1\text{E}6 = 6.2 \text{ MMBTU/hr}$

NOx: $\text{lb/MMBTU} \times \text{MMBTU/hr} = \text{lb/hr}$
 $0.1358 \times 20.7 = 2.81 \text{ lb/hr}$

$\text{lb/hr} \times 8760 \text{ hr/yr} / 2000 \text{ lb/T} = \text{T/yr}$
 $2.81 \times 8760 / 2000 = 12.3 \text{ T/yr}$

$\text{lb/hr} \times 453.6 \text{ g/lb} / 3600 \text{ sec/hr} = \text{g/sec}$
 $2.81 \times 453.6 / 3600 = 0.3541$

Refs: See Appendix p. A-1

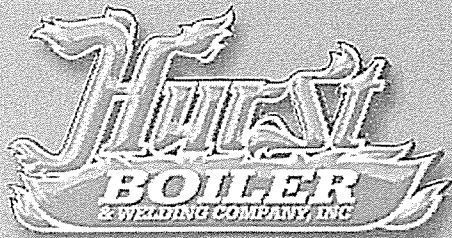
CALCULATION OF STACK PARAMETERS HURST 500 HP STEAM BOILER

Parameter	Calculation	Value	Units	Reference
F-factor		10,320	wscf/MMBTU (Fw factor)	40 CFR 60, Method 19
Heat input		20.7	MMBTU/hr	boiler heat input rating
Vf	$10320 \times 20.7 =$ $0.02832 \times 213624 =$ $6050 / 3600 =$	213,624	wscf/hr wscm/hr wscm/sec	
Ts		465.8	deg K	measured
Tstd		293	deg K	
Vf (T adj)	$477.4 / 293 \times 1.68 =$	2.67	m3/sec	volume corrected for temperature
O2		6.8	%	48% excess air
Vf (EA adj)	$20.9 / (20.9 - 3) \times 2.74 =$ $3.20 / (.3048^3) \times 60 =$	3.96	m3/sec acfm	volume corrected for excess air
Ds		2.00	ft 0.61 m	
Stk Area	$(.3048)^2 \times 4.9$	3.1	ft ² 0.29 m ²	
Vs	$45.52 / 2.52 =$	13.57	m/sec	

**CALCULATION OF STACK PARAMETERS
HURST 150 HP STEAM BOILER**

Parameter	Calculation	Value	Units	Reference
F-factor		10,320	wscf/MMBTU (Fw factor)	40 CFR 60, Method 19
Heat input		6.21	MMBTU/hr	boiler heat input rating
Vf	10320 X 6.21 = 0.02832 x 64087 = 1815 / 3600 =	64,087 1,815 0.50	wscf/hr wscm/hr wscm/sec	
Ts		426.9	deg K	measured
Tstd		293	deg K	
Vf (T adj)	477 / 293 x 1.68 =	0.73	m3/sec	volume corrected for temperature
O2		18.3	%	excess air due to odor control function
Vf (EA adj)	20.9/(20.9-3) x 0.82 = 0.96 / (.3048^3) x 60 =	5.90 12,511	m3/sec acfm	volume corrected for excess air
Ds		1.67 0.51	ft m	
Stk Area	(.3048)^2 x 4.9	2.2 0.20	ft2 m2	
Vs	45.52 / 2.52 =	29.13	m/sec	

APPENDIX B
MANUFACTURER'S LITERATURE



HURST

BOILER & WELDING CO., INC.

AVAILABLE WITH LOW NOX

HURST SERIES 200

2-PASS SCOTCH MARINE DESIGN
Full Rear Access

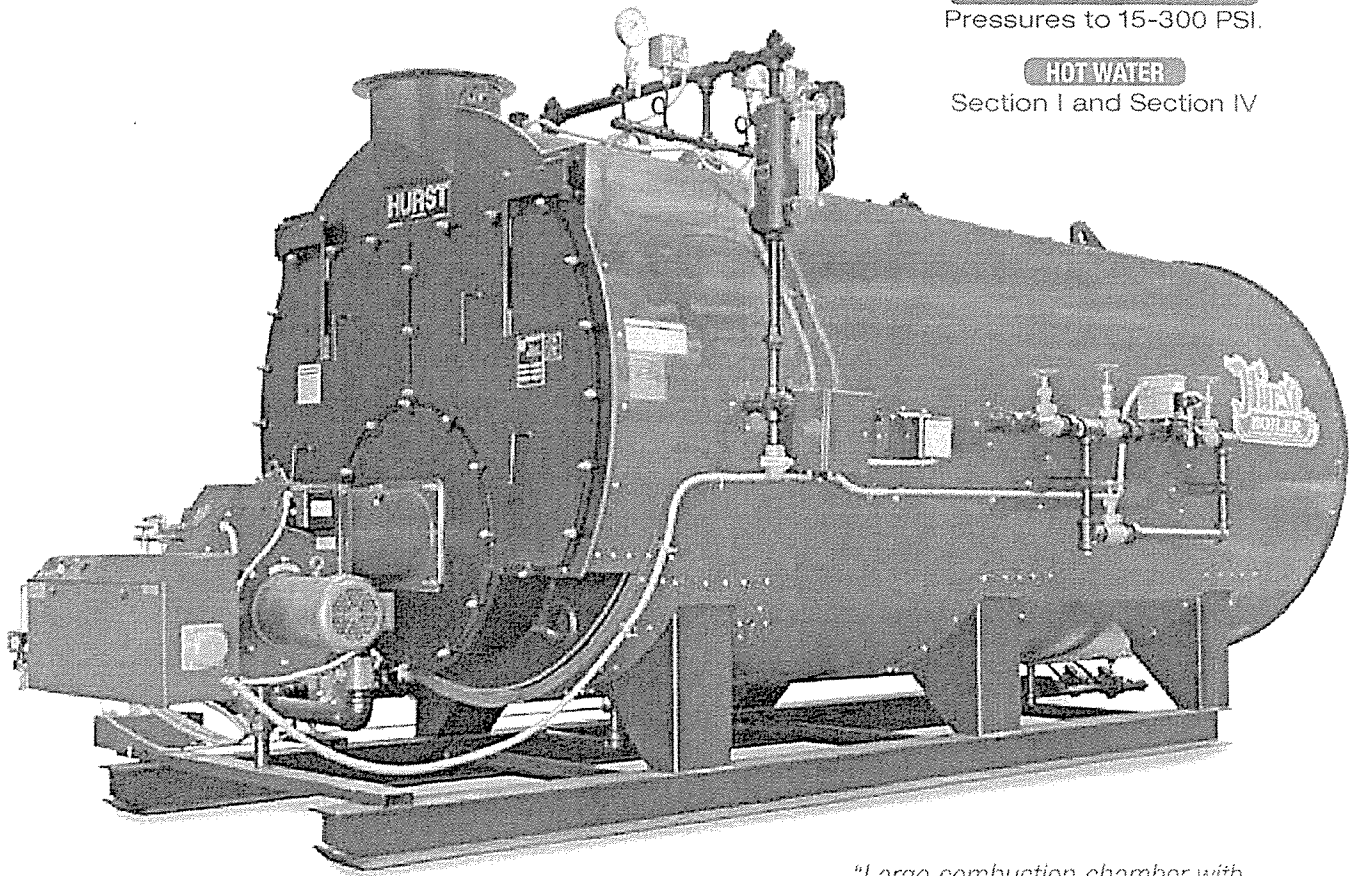
HIGH PRESSURE BOILER
Capacities from 15 to 800 BHP.
502 to 26780 MBTU/HR.

STEAM

Pressures to 15-300 PSI.

HOT WATER

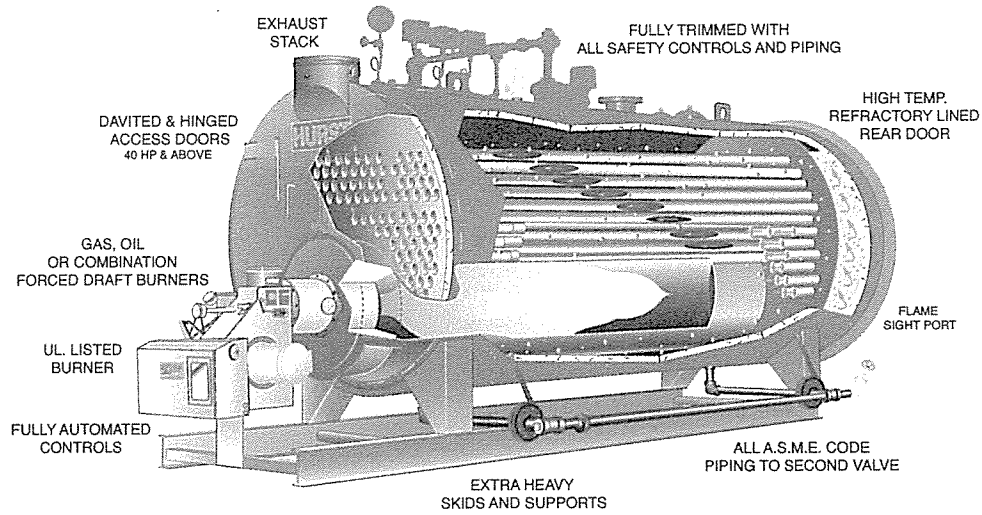
Section I and Section IV



SKID MOUNTED
MODULAR PACKAGED

*"Large combustion chamber with
low heat release for complete combustion."*

HURST PERFORMANCE SERIES BOILERS



	125	150	200	250	300	350	400	500	600	700	800
	625	750	1000	1250	1500	1750	2000	2500	3000	3500	4000
	4312	5175	6900	8625	10350	12075	13800	17250	20700	24150	27600
	4184	5021	6695	8369	10042	11716	13390	16738	20085	23432	26780
	5250	6300	8400	10500	12600	14700	16800	21000	25200	29400	33600
	57.3	68.8	91.8	114.7	137.7	160.6	183.6	229.5	275.4	321	367
	37.5	45	60	75	90	105	120	150	180	210	240
	35	42	56	70	84	98	112	140	168	196	224
A	4	4	4	6	6	6	6	8	8	8	8
B	8	8	8	10	10	10	12	12	12	12	12
C	6	8	8	8	10	10	10	12	12	12	12
D	6	6	6	6	8	10	10	10	10	12	12
E	1 1/2	1 1/2	2	2	2	2	2	2	2 1/2	2 1/2	2 1/2
F	(2) 1 1/2	(2) 1 1/2	(2) 2	(2) 2	(2) 2	(2) 2	(2) 2	(2) 2	(2) 2	(2) 2	(2) 2
G	16	16	20	20	20	24	24	24	26	26	30
H	26	26	34	34	34	42	42	42	48	48	48
I	60	60	75.5	75.5	75.5	90	90	90	102	102	102
J	68.5	68.5	84.5	84.5	84.5	99	99	99	111	111	111
K	73	73	93	93	93	103	103	103	116	116	116
L	175	195	163	194	215	177	187	223	239	271	307
M	214	234	209	240	261	224	235	268	310	342	380
N	174	198	168	192	216	168	180	220	240	282	318
O	48	48	60	60	60	70	70	70	78	78	78
P	69	82	57.87	82.87	94	75	77	100	86 7/8	98 7/8	98 7/8
Q	48	48	37	48	53	39	48	54	60	64 7/8	64 7/8
R	120	132	115	138	161	117	132	162	174	192 7/8	226 7/8
S	25-112	26-130	25-94	27 - 125	31-135	30-99	28-108	27-144	39-142	39-174	39-206
T	31 7/8	31 7/8	36 1/2	36 1/2	36 1/2	43.13	43.13	43.13	46	46	46
U	25	29	34	27	30	25	25	29	38	48	50
V	82	82	98	98	98	115	115	115	127	127	127
W	82	82	99	99	99	116	116	116	128	128	128
X	15	15	15	15	15	18	18	18	18	18	18
Y	35	35	43	43	43	43	43	40	67	67	69
Z	34	34	43	43	43	50	50	50	57	57	57
AA	23.25	27.25	34.13	27.12	30.12	25.125	27.125	31.125	36.125	46.125	34.125
BB	131	151	117	148	169	124	135	171	181	213	245
	141	161	124	155	176	131	143	179	189	221	253
	1000	1142	1274	1552	1764	1684	1872	2300	2938	3439	3941
	1160	1326	1547	1895	2153	2133	2364	2915	4071	4766	5461
	15000	16500	17900	25700	28000	32000	33900	39900	47000	54300	58000
	14350	15800	16500	23900	25250	31000	33000	38800	47000	54300	58000
	125	150	200	250	300	350	400	500	600	700	800

RATING (HP)

STEAM (lb/hr)

FO#2 (gph)

BOILER DESIGN: Two-Pass Dry-Back design. Pressure designs for steam are 15-300 psi. 100-600 hp. 250 psi. max. for 700-1500 hp. and 200 psi. max. for 1800-2000 hp.

STEAM MODEL TRIM: Safety relief valve, operating pressure control, high limit pressure control with manual reset, steam pressure gauge with syphon, combination pump control and low water cut-off with gauge glass assembly and drain valve, auxiliary low water cut-off with manual reset.

HOT WATER MODEL TRIM: Safety relief valve, operating temperature control, high limit temperature control with manual reset, combination pressure & temperature gauge, low water cut-off control with manual reset.

BURNER: Matched UL listed "forced draft" power burners with factory pre-piped, wired and tested fuel configurations for natural gas, propane (LP) gas, No. 2 (diesel) oil, or combination of both gas/oil.

500 HP BOILER

FORM P-2 MANUFACTURERS' DATA REPORT FOR ALL TYPES OF BOILERS EXCEPT WATERTUBE AND ELECTRIC

As Required by the Provisions of the ASME Code Rules, Section I

1. Manufactured by Hurst Boiler and Welding Company Inc. 21971 US HWY 319 N., COOLIDGE, GA., 31738
(Name and address of Manufacturer)

2. Manufactured for MDH BURNER & BOILER CO., INC.; 12106 S. CENTER STREET; SOUTH GATE, CA. 90280
(Name and address of purchaser)

3. Location of installation MDH BURNER & BOILER CO., INC.; 12106 S. CENTER STREET; SOUTH GATE, CA. 90280
(Name and address)

4. Type: SCOTCH Boiler No. S2500-150-47 NA 0400044 11,477 Year Built 2004
(HRT, etc.) (Mfr's. Serial No.) (CRN) (Drawing No.) (Nat'l. Board No.)

5. The chemical and physical properties of all parts meet the requirements of material specifications of the ASME BOILER AND PRESSURE VESSEL CODE. The design, construction, and workmanship conform to Section I of the ASME Boiler and Pressure Vessel Code 2001
(year)

Addenda to A03 and Code Cases NONE
(Date) (Numbers)

Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors are attached for the following items of this report:
NONE
(Name of part, item number, mfr's name and identifying stamp)

6. Shells or drums: 1 SA-516-70 1/2" 96" 187.5" NA NA
(no.) (mat'l. spec., gr.) (thickness (in.)) (dia. (ID)) (length, inside) (dia. (ID)) (length, inside)

7. Joints: WELDED 100% WELDED 2
(long. (seamless, welded)) (efficiency (as compared to seamless)) (girth (seamless, welded)) (no. of shell courses)

8. Heads: SA-516-70 3/4" THK. FLAT NA
(Material Specification No.: Thickness - Flat, Dished, Ellipsoidal - Radius of Dish)

9. Tubesheet: SA-516-70 3/4" THK. Tube Holes: 2 1/2"
(Mat'l. Spec., Grade, Thickness) (Dia.)

Header Tubes: No. (256) SA-178-A Straight
(Mat'l. Spec., Grade) (Straight or Bent)

Dia 2-1/2" Length 189-3/8" & 160-7/8" Gauge 12
(if various, give max & min) (or thickness)

11. Furnace No. 1 Size 44" Length, each section 172-5/8" Total 172-5/8"
(O.D. or W x H)

Type MORISON CORRUGATED
(Plain, Adamson, Ring Reinforced, Corrugated, Combined, or Stayed)

SA-516-70 OR SA-285-C 1/2" THK. Seams: Type Welded
(Mat'l. Spec., Grade, Thickness) (Seamless, Welded)

12. Staybolts: No. 46 Size 1-1/2" SA-675-70 81.3" SQ.
(Dia. Mat'l., Spec., Grade, Size Tailflange, Net Area)

Pitch 12.50" MAWP 150 psi.
(Hor. and Vert.)

13. Stays or braces:

Location	Material Spec. No.	Type	No. & Size	Max. Pitch	Fig. PFT-32 L/I	Dist. Tubes to Shell	MAWP, psi.
(a) F.H. above tubes	SA-675-70	DIAG.	(8) 1-1/2"	12.50"	13	23.734"	150
(b) R.H. above tubes	SA-675-70	DIAG.	(8) 1-1/2"	12.50"	13	23.734"	150
(c) F.H. below tubes	NA						
(d) R.H. below tubes	NA						
(e) Through stays	SA-675-70	THRU	(30) 1-1/2"	12.50"	NA	23.734"	150
(f) Dome braces	NA						

14. Other parts 1. TURNAROUND WRAPPER 2. TURNAROUND BACK 3. REAR ACCESS
(Brief Description - i.e., Dome, Boiler Piping, etc.)

5/8" THK. X 64-1/2" ID, SA-516-70 PLATE, WELDED REAR OF BOILER, 150 PSI.

2. 3/4" THK., SA-516-70 PLATE, WELDED INSIDE OF WRAPPER, 150 PSI

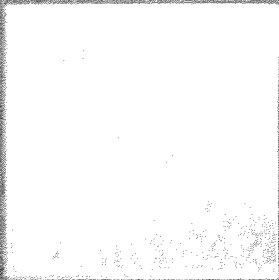
3. 24" X .375" THK., SA-106-B PIPE, WELDED INSIDE REAR TUBESHEET, 150 PSI
(Mat'l. Spec., Grade, Size, Material Thickness, MAWP)

500 HP BOILER

P. O. BOX 529

HWY 319 S.

COOLIDGE, GEORGIA 31738



MAX. W.P. P.S.I.

2500

HTG. SURF. SQ. FT.

2000

YEAR BUILT

1950



MFG. SERIAL NO.

STEAM LBS./HR.

150 HP BOILER

18 14000

CERTIFIED BY



P.O. DRAWER 529 - 21571 US HWY 319 N.
COOLIDGE, GEORGIA 31738
www.hirstboiler.com

0700191

JOB NUMBER

1116

HTG. SURF. SQ. FT.

200

MAX W.P. P.S.I.

5175

STEAM LBS./HR.

1481116-200-1

MFG. SERIAL NO.

2007

YEAR BUILT

FORM S-1

EMISSION CALCULATIONS FOR USED COOKING OIL BASED UPON COMPARISON TO SIMILAR BOILER TESTING CALCULATIONS FOR BAKER COMMODITIES IN TUKWILA, WASHINGTON.

BAKER COMMODITIES MAXIMUM
FEED RATE:
210 GAL/HR

ISLAND COMMODITIES MAXIMUM
FEED RATE:
150 GAL/HR

$$150/210 = 71\%$$

POUNDS PER HOUR CALCULATIONS

BAKER COMMODITIES EMISSIONS PER TEST:	ISLAND COMMODITIES EMISSIONS:
SO 0.018 LB/HR	X .71 = 0.013 LB/HR
PM 0.394 LB/HR	X .71 = 0.279 LB/HR
NO 3.490 LB/HR	X .71 = 2.478 LB/HR
CO 0.021 LB/HR	X .71 = 0.015 LB/HR
THC 0.007 LB/HR	X .71 = 0.005 LB/HR

TONS PER YEAR CALCULATIONS

AVERAGE BOILER FUEL YEARLY CONSUMPTION (3 YEARS) = 227,000 GALLONS
BOILER FIRING RATE = 150 GALLONS/HR
227,000 GAL / 150 GAL/HR = 1,513 HRS OF OPERATION PER YEAR

SO	0.013 LB/HR X 1513 HRS = 19.669 LB = 0.0098 TPY
PM	0.279 LB/HR X 1513 HRS = 422.127 LB = 0.211 TPY
NO	2.478 LB/HR X 1513 HRS = 3,749.2 LB = 1.874 TPY
CO	0.015 LB/HR X 1513 HRS = 22.695 LB = 0.0113 TPY
THC	0.005 LB/HR X 1513 HRS = 7.565 LB = 0.0037 TPY

Source: Island Commodities 2009 NSP application

HC&S Report

TABLE 2-4. EMISSION DATA SUMMARY — BOILER 3, COOKING OIL*

Client:	HC & S			O ₂ Corr. Factor (%)	3
Source:	Boiler 3 Cooking Oil			Standard Temp. (°F)	68
Run #	5	6	7	Average	
Date:	18-Oct-02	18-Oct-02	18-Oct-02	18-Oct-02	
Test Condition	323.1 MMBtu/hr	316.4 MMBtu/hr	293.2 MMBtu/hr	310.9 MMBtu/hr	
Barometric Pressure (*Hg)	29.65	29.65	29.65	29.65	
Stack Pressure (*Hg)	29.64	29.64	29.64	29.64	
Stack Area (ft ²)	78.54	78.54	78.54	78.54	
Sampling Time (min.)	60.0	60.0	60.0	60.00	
Volume Gas Sampled (dscf)	44.446	47.795	45.614	45.952	
F-Factor	9000.15	9217.13	9424.67	9213.99	
Fuel Flow (lb/hr)	19240	18875	17581	18562	
Gas Data					
Average Gas velocity (fps)	22.08	24.13	23.20	23.14	
Average Gas Temperature (°F)	114.13	119.54	119.67	117.78	
Gas Flowrate (dscfm)*	85453	91381	87288	88040	
Gas Analysis (Volume %)					
Carbon Dioxide	8.64	8.53	8.71	8.62	
Oxygen	9.92	9.75	9.56	9.74	
Water	9.85	11.03	11.51	10.80	
Emission Concentration					
Filterable Particulate (gr/dscf)	0.0214	0.0120	0.0105	0.0146	
CO (ppm)	87.70	46.11	42.08	58.63	
SO ₂ (ppm)	0.03	0.03	0.04	0.03	
NO _x (ppm as NO ₂)	67.06	70.35	75.17	70.85	
HC > C ₁ (ppm)	5.80	11.08	14.62	10.50	
Emission Rate - lb/hr					
Filterable Particulate	15.67	9.41	7.85	10.98	
CO	32.69	18.38	16.02	22.36	
SO ₂	0.03	0.03	0.03	0.03	
NO _x as NO ₂	41.06	46.00	47.02	44.69	
HC > C ₁	1.24	2.53	3.19	2.32	
Emission Factor - lb/MMBtu					
Filterable Particulate	0.0524	0.0297	0.0261	0.0360	
CO	0.1093	0.0579	0.0532	0.0753	
SO ₂	0.0001	0.0001	0.0001	0.0001	
NO _x as NO ₂	0.1373	0.1450	0.1560	0.1461	
HC > C ₁	0.0041	0.0080	0.0106	0.0076	
Emission Concentration @ O₂ Correction					
CO (ppm)	145.01	74.03	66.42	94.49	
SO ₂ (ppm)	0.05	0.05	0.06	0.05	
NO _x (ppm as NO ₂)	109.35	112.70	118.65	113.51	
HC > C ₁ (ppm)	9.46	17.79	23.08	15.77	

* Measured Flowrates

HC&S Report

Jim Steiner
Tetra Tech
4609 New Horizon Blvd. Suite 9

Date: October 30, 2002
REQUEST NUMBER: 19865
LAB NUMBER: J0062

BAKERSFIELD, CA 93313

SAMPLE ID: Boiler & Cooking Oil
44934 Test 5

REPORT OF ANALYSIS

CARBON, wt % 73.56
HYDROGEN, wt % 12.21
NITROGEN, wt % 0.54

SULFUR, wt % 0.06
ASH, wt % 0.69
OXYGEN, wt % 12.94

TOTAL 100.00

MOISTURE, vol % < 0.1

HEATING VALUE, Btu/lb 16,794
Btu/gal 124,947

MMBtu/bbl 5.248

SPECIFIC GRAVITY, 60F/60F 0.891
API 27.3

DENSITY, lb/gal 7.44

MDE:tab

Monte L. Ellis
Laboratory Manager



WYOMING ANALYTICAL LABORATORIES, INC.

1660 Harrison St.
Laramie, WY 82070

wallaramie@aol.com

(307) 742-7995
Fax: (307) 721-8956



HC&S Report

Jim Steiner
Tetra Tech
4609 New Horizon Blvd. Suite 9
BAKERSFIELD, CA 93313

Date: October 30, 2002
REQUEST NUMBER: 19865
LAB NUMBER: J0063

SAMPLE ID: Boiler 3 Cooking Oil
44939 Test 6

REPORT OF ANALYSIS

CARBON, wt % 75.38
HYDROGEN, wt % 12.20
NITROGEN, wt % 0.46

SULFUR, wt % 0.02
ASH, wt % 0.40
OXYGEN, wt % 11.54

TOTAL 100.00

MOISTURE, vol % < 0.1

HEATING VALUE, Btu/lb 16,763
Btu/gal 123,208
MMBtu/bbl 5.175

SPECIFIC GRAVITY, 60F/60F 0.881
API 29.1

DENSITY, lb/gal 7.35

MLE:tab

Monte L. Ellis
Laboratory Manager

WYOMING ANALYTICAL LABORATORIES, INC.

1660 Harrison St.
Laramie, WY 82070

wallaramie@aol.com

(307) 742-7995
Fax: (307) 721-8956



HC&S Report

Jim Stainer
Tetra Tech
4609 New Horizon Blvd. Suite 9
BAKERSFIELD, CA 93313

Date: October 30, 2002
REQUEST NUMBER: 19865
LAB NUMBER: J0064

SAMPLE ID: Boiler 3 Cooking Oil
44944 Test 7

REPORT OF ANALYSIS

CARBON, wt % 76.51
HYDROGEN, wt % 12.34
NITROGEN, wt % 0.25

SULFUR, wt % 0.01
ASH, wt % 0.32
OXYGEN, wt % 10.57

TOTAL 100.00

MOISTURE, vol % < 0.1

HEATING VALUE, Btu/lb 16,675
Btu/gal 123,228
MMBtu/bbl 5.176

SPECIFIC GRAVITY, 60F/60F 0.886
API 28.2

DENSITY, lb/gal 7.39

MLE:cab

Monte L. Ellis
Laboratory Manager



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Univ. of Georgia

A Demonstration of Fat and Grease as an Industrial Boiler Fuel

Principal Investigator:

Dr. Thomas T. Adams, P.E., Public Service Associate
UGA Engineering Outreach Service (EOS)

Coinvestigators:

Jim Walsh, GA Tech EDI
Mike Brown, GA Tech EDI
Dr. John Goodrum, UGA Bio. & Ag. Eng.
Dr. Jackie Sellers, UGA Bio. & Ag. Eng.
Dr. Keshav Das, UGA Bio. & Ag. Eng.

Project Administrator:

Dr. E. Dale Threadgill, Director
Faculty of Engineering
The University of Georgia

Project/Report Manager:

Robert J. Synk, P.E., Project Management Resources, Inc.

Project/Report Contributors:

Erin Callaghan, Public Service Representative, UGA, EOS
Bryan Graffagnini, Research Engineer, UGA EOS
Javier Sayago, Chemist, UGA EOS

The University of Georgia

Engineering Outreach Service
Driftmier Engineering Center
Athens, GA 30606-4435

June 30, 2002

Jointly Funded by:

Poultry Protein & Fat Council of the U.S. Poultry & Egg Association
Fats and Proteins Research Foundation, Inc.
The University of Georgia

To establish the commercial specifications of the fats and greases relative to standard market product designations, Woodson-Tenent Laboratories Division of Eurofins Scientific, Inc., Memphis, TN performed a fatty acid analysis of one sample each of chicken fat, yellow grease, choice white grease and tallow, Table 1. The fatty acid profiles were determined using gas chromatography (AOCS method CE2-66/CE1-620, 0.01% accuracy).

In addition, Woodson-Tenent performed MIU (moisture, impurities, unsaponifiables) analyses of eight (8) biofuel samples, two (2) samples each of chicken fat, yellow grease, choice white grease and tallow, Table 1.

2.4. Viscosity and Specific Gravity

In the summer of 2001, the UGA Biological and Agricultural Engineering (BAE) Department analyzed representative samples of chicken fat and yellow grease, obtained from a local company, to establish a range of viscosity and specific gravity for the design of the test facility.

In the spring of 2002, BAE analyzed fuel samples collected during the test program. The UGA laboratory used a Brookfield LVT viscometer to determine dynamic viscosity (1% accuracy and 0.2% full-scale reproducibility). Specific gravity was measured directly. The dynamic viscosity of each fat and grease, of four (4) biofuel blends and of No. 2 fuel oil was measured over a range of five (5) temperatures and five (5) shear rates. The specific gravity of each fat and grease and of No. 2 fuel oil was measured over a range of five (5) temperatures. One sample of each fuel was tested. All biofuel blends consist of 33% biofuel and 67% No. 2 fuel oil. No. 6 fuel oil viscosity and specific gravity are given below for reference.

Fuel	Dynamic Viscosity, cP	Specific Gravity
No. 2 Fuel Oil ¹	2.3 ^{4,5}	0.83 ⁴
Choice White Grease Blend ¹	4.7 ^{4,5}	not analyzed
Yellow Grease Blend ¹	4.9 ^{4,5}	not analyzed
Tallow Blend ¹	5.2 ^{4,5}	not analyzed
Chicken Fat Blend ¹	12.6 ^{4,5}	not analyzed
Chicken Fat ¹	23.3 ^{4,5}	0.89 ⁴
Yellow Grease ¹	23.3 ^{4,5}	0.89 ⁴
Tallow ¹	24.2 ^{4,5}	0.89 ⁴
Choice White Grease ¹	25.0 ^{4,5}	0.88 ⁴
No. 6 Fuel Oil ²	490 ³	0.97 ³

1) Goodrum et al., 2002; 2) Babcock & Wilcox, 1976; 3) data at 38 deg. C.; 4) data at 54.4 deg. C.; 5) data at 12.94 s⁻¹ shear rate

2.5. Ultimate Analysis and Heating Value

PSC Analytical Services, Reading, PA analyzed a total of (33) biofuel, biofuel/fuel oil blends and fuel oil samples to establish their comparative combustion chemistry and heating values. (All biofuel blends consist of 33% biofuel and 67% No. 2 fuel oil.) PSC used standard ASTM test methods for all analyses. PSC is certified/ accredited by the USEPA, NIOSH, the US Corp of Engineers, and (12) states.

Table 3, Fuel Energy Content and Ultimate Analysis ¹

Fuel	Energy Content, Btu/Lb.	Ash	Carbon	Hydrogen	Nitrogen	Oxygen	Sulfur	Moisture
Chicken Fat	16,873	0.14%	75.3%	11.4%	0.04%	13.1%	0.006%	(trace)
Chicken Fat - Fuel Oil Blend	18,223	0.02%	82.7%	12.2%	0.06%	3.83%	0.12%	(trace)
Yellow Grease	16,899	0.02%	76.4%	11.6%	0.03%	12.1%	0.005%	(trace)
Yellow Grease - F.O. Blend	18,543	0.01%	80.2%	11.6%	0.07%	8.01%	0.13%	(trace)
Choice White Grease	16,893	0.08%	76.5%	11.5%	0.05%	11.6%	0.007%	(trace)
Ch. Wht. Grease - F.O. Blend	18,493	0.01%	82.2%	12.1%	0.09%	5.48%	0.13%	(trace)
Tallow	16,920	0.03%	76.6%	11.9%	0.02%	11.4%	0.003%	(trace)
Tallow Fuel - Oil Blend	18,523	0.06%	80.7%	11.9%	0.01%	7.22%	0.13%	(trace)
No. 2 Fuel Oil	19,237	0.02%	84.0%	11.9%	0.01%	3.78%	0.35%	(trace)

1) PSC Analytical Services, Reading, PA

2.6. General Characterization

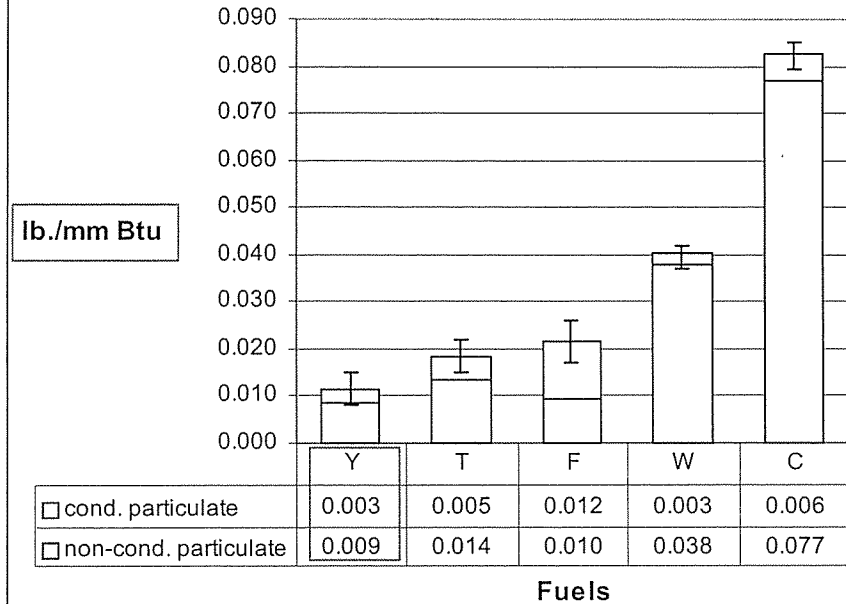
The Material Safety Data Sheets (MSDS) included in the Appendix indicate that the fats and greases tested are neither hazardous nor explosive. From the test team’s experience, these fats and greases have a distinct and unpleasant odor. However, their volatility is low and the odors do not diffuse readily.

Reports from industry indicate that chicken fat is very miscible in fuel oil and does not readily separate in solution. The test team subjectively confirmed miscibility during the demonstration project; however, definitive data was not collected.

2.7. Discussion

Preliminary laboratory analyses indicated that fats and greases could be used with the No. 2 boiler burner nozzle and that the fuel handing system designed for the test program could easily handle these biofuels. Actual combustion testing demonstrated these findings. Later testing confirmed that biofuels, both singly and blended, have high heating value, low ash, and low sulfur content. Heating values for the biofuel blends tested are within 95% of the heating value of No. 2 fuel oil.

Fig. 13, Particulate Emissions, Biofuels and Fuel Oil



- 1) Test conditions: maximum boiler load with FGR.
- 2) Condensible particulate = organic + inorganic condensible particulate.
- 3) Total particulate = non-cond. + cond. particulate.
- 4) Error bars show std. error for total particulate.

Fuel Abrev.	Fuel
Y	YELLOW GREASE
T	TALLOW
F	No. 2 FUEL OIL
W	CHOICE WHITE GREASE
C	CHICKEN FAT

Fig. 13. Legend

5.2. Gaseous Emissions Testing

The UGA Engineering Outreach team used an ENERAC 3000E analyzer to measure the gaseous emissions from the No. 2 boiler. The team recorded both average and instantaneous measurements of flue gas concentrations for oxygen, carbon monoxide, carbon dioxide, combustible gases, excess air, nitric oxide, nitrogen dioxide, NO_x (NO + NO₂), and sulfur dioxide. The analyzer software

Table 5, Comparison of UGA Test Emissions to US EPA Criteria Pollutant Emission Factors

Fuel & Firing Condition	NO _x , lb./MMBtu	Filterable PM, lb./MMBtu	CO, lb./MMBtu	SO ₂ , lb./MMBtu ⁵
UGA Boiler No. 2 Emissions, Tested at Max. Steam Load ¹:				
Chicken Fat, controlled with FGR ⁷	0.156	0.077	0.008	0.000
Yellow Grease, controlled with FGR ⁷	0.097	0.009	0.016	0.001
Choice White Grease, controlled with FGR ⁷	0.150	0.038	0.014	0.000
Tallow, controlled with FGR ⁷	0.101	0.014	0.018	0.007
No. 2 Fuel Oil, controlled with FGR ⁷	0.116	0.010	0.004	0.219
UGA Boiler No. 2 Emissions, Estimated at Max. Steam Load ²:				
Chicken Fat, uncontrolled (w/o LNB or FGR)	0.164	not available	0.000	0.000
Yellow Grease, uncontrolled (w/o LNB or FGR)	0.127	not available	0.012	0.000
Choice White Grease, uncontrolled (w/o LNB or FGR)	0.154	not available	0.014	0.000
Tallow, uncontrolled (w/o LNB or FGR)	0.118	not available	0.012	0.002
No. 2 Fuel Oil, uncontrolled (w/o LNB or FGR)	0.125	not available	0.003	0.150
Chicken Fat, blended ⁶ , uncontrolled	0.137	not available	0.008	0.124
Yellow Grease, blended ⁶ , uncontrolled	0.122	not available	not available	0.034
Choice White Grease, blended ⁶ , uncontrolled	0.144	not available	0.012	0.119
Tallow, blended ⁶ , uncontrolled	0.129	not available	0.008	0.102
Chicken Fat, blended ⁶ , controlled w. FGR ⁷	0.125	not available	0.014	0.138
Yellow Grease, blended ⁶ , controlled w. FGR ⁷	0.109	not available	not available	0.083
Choice White Grease, blended ⁶ , controlled w. FGR ⁷	0.138	not available	0.033	0.188
Tallow, blended ⁶ , controlled w. FGR ⁷	0.125	not available	0.008	0.119
US EPA Emission Factors for Criteria Pollutants (boilers > 100 MMBtu/hr heat input) ^{3,4}:				
No. 2 Fuel Oil fired, controlled with FGR	0.071	0.014	0.036	0.393
Natural Gas fired, controlled with FGR	0.098	0.002	0.082	0.000
No. 2 Fuel Oil fired, uncontrolled (w/o LNB or FGR)	0.171	0.014	0.036	0.393
Natural Gas fired, uncontrolled (w/o LNB or FGR)	0.186	0.002	0.082	0.000

1) Advanced Air Consultants, Murrayville, GA

2) Emissions data have been estimated using the test results from Advanced Air Consultants and ENERAC 3000E testing.

3) US EPA Fifth Edition 1995, with Supplements: A (1996), B (1996), D (1998), and E (1998)

4) The UGA No. 2 Boiler Operating Permit is based upon a 130 MMBtu/hr heat input.

5) SO₂ emissions data have been reviewed in report Section 5.5, *Discussion*.

6) All blended fuels consist of 33% biofuel and 67% No. 2 fuel oil.

7) The FGR system was limited to 7% - 10% flue gas recirculation, see report Section 3.4.

Additional research is needed to understand:

1. What is the effect of biofuel/fuel oil blend proportions on viscosity and miscibility? What blend proportions maintain fluidity (low viscosity) over the range of ambient storage temperatures (say, 32 to 100° F.) typical in industrial applications? What is the minimum amount of agitation required?
2. What are minimum required specifications for fats and greases used as biofuel? What are the requirements for solids removal (screening), MIU (moisture, insolubles, unsaponifiables), Ultimate analysis (C, H, N, S), energy content, specific gravity, viscosity, etc.? How shall biofuels be specified for environmental permitting?

From: [James Morrow](#)
To: [Cao, Liyuan](#)
Subject: Re: [EXTERNAL] Re: Draft Permit for Island Commodities, 0377-01-C
Date: Monday, August 9, 2021 2:54:29 PM
Attachments: [image001.png](#)

Emma,

The "responsible official" is no longer John Tsukada.

The current "responsible official" is Mr. Paul Tower, General Manager.

Jim

J. W. Morrow, DrPH
1481 South King St., Ste. 548
Honolulu, HI 96814
(808) 942-9096

On Monday, August 9, 2021, 12:25:39 PM HST, James Morrow <jwmorrow@att.net> wrote:

Hi Emma,

I am finally back from travel and will get back to you shortly.

Thanks.

Jim

J. W. Morrow, DrPH
1481 South King St., Ste. 548
Honolulu, HI 96814
(808) 942-9096

On Monday, August 9, 2021, 11:40:22 AM HST, Cao, Liyuan <liyuan.cao@doh.hawaii.gov> wrote:

Hi Jim,

Do you have any comments for the draft permit?

Thanks,
Emma

From: James Morrow <jwmorrow@att.net>
Sent: Tuesday, July 13, 2021 4:05 PM
To: Cao, Liyuan <liyuan.cao@doh.hawaii.gov>
Cc: Lopez, Catherine <catherine.lopez@doh.hawaii.gov>
Subject: [EXTERNAL] Re: Draft Permit for Island Commodities, 0377-01-C

Hi Emma,

Thank you for the draft. I have intermittent web access at this time. I will review and try to get back to you soon.

Jim

J. W. Morrow, DrPH
1481 South King St., Ste. 548
Honolulu, HI 96814
(808) 942-9096

On Tuesday, July 13, 2021, 12:45:38 PM HST, Cao, Liyuan <liyuan.cao@doh.hawaii.gov> wrote:

Hi Jim,

Hope you are doing all good!

Attached are the drat permit for Island Commodities, 0377-01-C.
Please review and let me know if you have any questions.

Thanks,

Emma Cao
Environmental Engineer
Clean Air Branch
Hawaii State Department of Health
Office #: (808) 586-6848



From: [James Morrow](#)
To: [Cao, Liyuan](#)
Subject: Re: [EXTERNAL] Re: Initial permit Application of Island Commodities 0377-01-C
Date: Tuesday, July 6, 2021 4:38:32 PM

Hi Emma,

There was no "model no." indicated in the specs or on the plate on each boiler (see photos in Appendix B of the application). They are "Series 200" boilers.

Jim

J. W. Morrow, DrPH
1481 South King St., Ste. 548
Honolulu, HI 96814
(808) 942-9096

On Tuesday, July 6, 2021, 1:16:09 PM HST, Cao, Liyuan <liyuan.cao@doh.hawaii.gov> wrote:

Hi James,

Just to confirm, is 200 the model number for both of the boilers?

Thanks,
Emma

-----Original Message-----

From: JW Morrow <jwmorrow@att.net>
Sent: Saturday, October 24, 2020 10:00 AM
To: Cao, Liyuan <liyuan.cao@doh.hawaii.gov>
Subject: Re: Fw: [EXTERNAL] Re: Initial permit Application of Island Commodities 0377-01-C

Hi Emma,

Yes, the biennial tune-up requirement would have to be in the permit.

Thanks.

Jim

J. W. Morrow, DrPH
1481 South King St., Ste. 548
Honolulu, HI 96814
(808) 942-9096

On 10/23/2020 3:40 PM, Cao, Liyuan wrote:

> Hi James,

>

> Thanks for the information. If they can do the tune-up, then I'm going

> to put the biennial tune up requirement for both the boilers in the

> permit. Is that ok? I know you would review the draft permit when it's

> ready.

>

> Mahalo,
> Emma

> -----
> --

> *From:* JW Morrow <jwmorrow@att.net>
> *Sent:* Friday, October 23, 2020 1:21 PM
> *To:* Cao, Liyuan <liyuan.cao@doh.hawaii.gov>
> *Subject:* Re: Fw: [EXTERNAL] Re: Initial permit Application of Island
> Commodities 0377-01-C Hi Emma,

>
> I came to the same conclusion regarding applicability of Subpart JJJJJJ.

>
> While the 150 HP boiler is in fact used for odor control, that control
> is not required by CFR Parts 60, 61, 63 or 65 and therefore exemption
> under Sec. 63.11195 is not applicable.

>
> We have done the required tune-ups in 2016 and 2018, but the tune-up
> parameters are not the same as those of a normal commercial boiler
> because this boiler is used for odor control not steam production.

>
> Thanks.

>
> Jim

> _____
> J. W. Morrow, DrPH
> 1481 South King St., Ste. 548
> Honolulu, HI 96814
> (808) 942-9096

>
> On 10/22/2020 12:08 PM, Cao, Liyuan wrote:

>>
>> Please see attached letter.

>> -----
>> ---

>> *From:* Cao, Liyuan <liyuan.cao@doh.hawaii.gov>
>> *Sent:* Thursday, October 22, 2020 10:11 AM
>> *To:* JW Morrow <jwmorrow@att.net>
>> *Subject:* Re: [EXTERNAL] Re: Initial permit Application of Island
>> Commodities 0377-01-C Hi James,

>>
>> Hope you are doing all well.

>>
>> I came across this letter that you sent to us back in November, 2016
>> about whether the 150hp boiler is exempt or not.

>>
>> Is this boiler a control device described in 63.11195(g)? Based on
>> the information from your application, I believe it's not. Let me
>> know your thoughts.

>>
>> If it's not exempt and subject to JJJJJJ, then it has to do a tune-up
>> biennially. Is it possible that Island Commodities can find a way to
>> do the tune-up for this boiler?

>>
>> Thanks,
>> Emma

>> -----
>> ---

>> *From:* JW Morrow <jwmorrow@att.net>
>> *Sent:* Thursday, October 8, 2020 4:17 PM
>> *To:* Cao, Liyuan <liyuan.cao@doh.hawaii.gov>
>> *Subject:* Re: [EXTERNAL] Re: Initial permit Application of Island
>> Commodities 0377-01-C Hi Emma,
>>

>> I found discrepancies in the "Calculation" column. Those were
>> typographical errors as the values were manually entered and were not
>> part of the actual calculations performed in the "Value" column. I
>> have attached revised pages A-3r and A-4r.
>>

>> Thanks for catching that.
>>

>> Jim
>>

>> J. W. Morrow, DrPH
>> 1481 South King St., Ste. 548
>> Honolulu, HI 96814
>> (808) 942-9096
>>

>> On 10/8/2020 9:06 AM, Cao, Liyuan wrote:

>>> Hi James,
>>>

>>> Can you double check the stack parameters calculation in your application, I found several errors in
it. It's page A-3 and A-4 of Form S-1.
>>>

>>> Thanks,
>>> Emma
>>>

>>> -----Original Message-----

>>> From: JW Morrow <jwmorrow@att.net>
>>> Sent: Wednesday, September 30, 2020 6:23 PM
>>> To: Cao, Liyuan <liyuan.cao@doh.hawaii.gov>
>>> Subject: Re: [EXTERNAL] Re: Initial permit Application of Island
>>> Commodities 0377-01-C
>>>

>>> Hi Emma,
>>>

>>> 1. The 1200 BTU/lb of steam is a rounded-up value typically used in boiler design. It is based on the
required heat input to generate 1 lb of steam: 180 BTU to bring 1 lb of water to boiling (212 F) and then
another 970 BTU to convert liquid to steam (180+ 970 = 1150 BTU/lb).
>>>

>>> See the attached spec sheet from boiler manufacturer Cleaver-Brooks with some calculations added
to further illustrate this.
>>>

>>> 2. The boiler heat input will be identical for both fuels and their stack parameters will be essentially
the same given their very similar Method 19 Fd-factors (+/- ~2%). This should be adequate for modeling
as long as the modeling results are not too closeto the ambient standards.
>>>

>>> Jim
>>>

>>> J. W. Morrow, DrPH
>>> 1481 South King St., Ste. 548
>>> Honolulu, HI 96814
>>> (808) 942-9096
>>>

>>> On 9/29/2020 1:56 PM, Cao, Liyuan wrote:

>>>> Hi James,

>>>>

>>>> Got another question here.

>>>>

>>>> In your application, page A-2, where is the 1200 BTU/lb came from? Based on your calculation, the heat input rate of yellow grease and of fuel oil no.2 are almost the same. So their stack parameters should be the same, too. Am I correct?

>>>>

>>>> Sorry about having so many questions. It's my first time dealing with boilers burning yellow grease.

>>>>

>>>> Thanks,

>>>> Emma

>>>>

>>>> -----Original Message-----

>>>> From: JW Morrow <jwmorrow@att.net>

>>>> Sent: Monday, September 28, 2020 2:34 PM

>>>> To: Cao, Liyuan <liyuan.cao@doh.hawaii.gov>

>>>> Subject: [EXTERNAL] Re: Initial permit Application of Island

>>>> Commodities 0377-01-C

>>>>

>>>> Hi Emma,

>>>>

>>>> Sorry for the slow response to your questions/comments. My answers follow.

>>>>

>>>> 1. The sample NOx emission rate (lb/MMBTU) was calculated as follows:

>>>>

>>>> - Baker (Tukwila, WA) emission rate of 3.49 lb/hr (from the

>>>> original

>>>> 2009 NSP application; they used "SO" and "NO" instead of "SOx" and "NOx"

>>>> - Baker (Tukwila, WA) fuel rate of 210 gal/hr

>>>> - H&CS mean HHV of 123,794 BTU/gal

>>>>

>>>> $3.49 / (210 \times 123,794) / 1,000,000 = 0.1342 \text{ lb/MMBTU}$

>>>>

>>>> 2. Sorry for the less than perfect copy of the HC&S report I had a paper copy of a fax in my files and the lb/MMBTU values that I used from that report were legible. The last data column (averages) was difficult but could be confirmed by averaging the values from the three test runs which were legible. See attachment.

>>>>

>>>> If you have further questions or comments, please call or email.

>>>>

>>>> Thanks.

>>>>

>>>> Jim

>>>>

>>>> _____
>>>> J. W. Morrow, DrPH

>>>> 1481 South King St., Ste. 548

>>>> Honolulu, HI 96814

>>>> (808) 942-9096

>>>>

>>>> On 9/23/2020 3:43 PM, Cao, Liyuan wrote:

>>>>> Hi James,

>>>>>

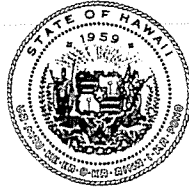
>>>>> Hope this email finds you well.

>>>>>

>>>>> I'm currently working on the initial permit application for a

>>>> covered source of Island Commodities. The application was
>>>> submitted in November, 2016.
>>>>
>>>> I have a question regarding the emission calculation you did for
>>>> the boilers burning yellow grease.
>>>>
>>>> In your application, you used emission data from Baker, H&C report
>>>> and U.Georgia report. For your sample calculation of Baker, i
>>>> don't see where you get the emission rate of NOx. Also, I couldn't
>>>> find the HC&S report online, can you send us a clear copy. The
>>>> electronic copy you attached is hard to see.
>>>>
>>>> Let me know if you have any questions.
>>>>
>>>> Take care.
>>>>
>>>> Emma Cao
>>>> /Engineer/
>>>> /Clean Air Branch/
>>>> /808-586-4200/
>>>>
>>>>
>>>> <[https://urldefense.com/v3/_http://www.avg.com/email-signature?utm_medium=email&utm_source=link&utm_campaign=sig-email&utm_content=](https://urldefense.com/v3/_http://www.avg.com/email-signature?utm_medium=email&utm_source=link&utm_campaign=sig-email&utm_content=emailclient_!!LIYSdFfckKA!i5nH_3Le349-kmjdyRHF_GCToTzq2Wai2GswTC-J3LZkWCb4Qre9T2i6TvlnEiCiKYqINqY$)
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DAVID Y. IGE
GOVERNOR OF HAWAII



FILE COPY *u*

VIRGINIA PRESSLER, M.D.
DIRECTOR OF HEALTH

Initials JH

Mailed Out MAR 13 2017

In reply, please refer to:
File:

17-163E CAB
File No. 0377

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

March 14, 2017

Mr. John Tsukada
Division General Manager
Island Commodities
Division of Baker Commodities, Inc.
91-269 Olai Street
Kapolei, Hawaii 96707

Dear Mr. Tsukada:

SUBJECT: Initial Covered Source Permit Application No. 0377-05
Island Commodities
One (1) 500 HP Hurst Boiler and One (1) 150 HP Hurst Boiler
Located At: 91-269 Olai Street, Kapolei, Oahu
UTM: Zone 4, 593,616 m E, 2,355,298 m N (NAD 83)

The Department of Health, Clean Air Branch (CAB), acknowledges receipt of your initial covered source permit application on November 14, 2016. Your application has been assigned **No. 0377-05**. Please reference this number in future correspondence. A receipt for the application filing fee of \$1000.00 is enclosed.

The CAB completed the initial review of your permit application and has determined the application to be complete. Please note that pursuant to Hawaii Administrative Rules, Chapter 11-60.1, during the processing of an application that has been deemed complete, if it is determined that additional information is necessary to evaluate or take final action on the application, the CAB may request for additional information.

If you have any questions regarding this matter, please contact Ms. Jing Hu of my staff at (808) 586-4200.

Sincerely,

MARIANNE ROSSIO, P.E.
Manager, Clean Air Branch

JH:mah

Enclosure

C
JH**J. W. MORROW**Environmental Management
Consultant

November 16, 2016

Ms. Catherine Lopez, P.E.
Acting Manager, Clean Air Branch
Department of Health
919 Ala Moana Boulevard, Room 203
Honolulu, Hawaii 96814

Dear Ms. Lopez:

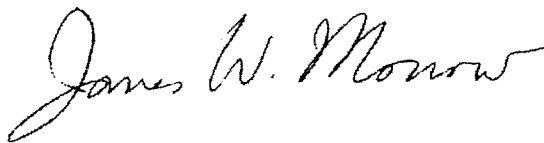
Subject: 40 CFR 63, Subpart JJJJJ Applicability Determination
150 HP Yellow Grease-Fired Boiler
Island Commodities

This rendering plant has an existing 150 HP liquid fuel fired boiler that appears to be subject to the requirements of 40 CFR 63, Subpart JJJJJ. Based on its heat input rating, the boiler is required to conduct initial and biennial tune-ups as specified in §63.11214 and §63.11223.

However, because the boiler's primary function is odor control, large volumes of odorous air are pumped from the cooker and heated storage tanks to the boiler resulting in excess air levels >700%. It is therefore not possible to perform a normal tune-up and adjust the air/fuel mix such that the excess air is in the 15% - 25% range typical of energy efficient boilers.

Please advise us as to the applicability of Subpart JJJJJ and whether §63.11195(g) might apply to this boiler. Have your staff contact me at 942-9096 with any questions pertaining to this request. Thank you in advance for your assistance in this matter.

Sincerely,



James W. Morrow, DrPH

JWM;jm
161116

cf: Island Commodities

SERVING HAWAII AND THE PACIFIC SINCE 1974

1481 South King Street, Suite 548, Honolulu, Hawaii 96814
Telephone: (808) 942-9096 E-mail: jwmorrow@att.net

MD35426



cc NOV 18 2016
JH
SCANNED
POSTNET
NOV 15 2016

Island Commodities Company

91-269 Olai Street, Kapolei, HI 96707 Phone: (808) 682-0726 Fax: (808) 682-4389

November 10, 2016

Ms. Catherine Lopez, P.E.
Acting Manager, Clean Air Branch
Department of Health
919 Ala Moana Blvd., Room #203
Honolulu, HI. 96814

Aloha Ms. Lopez,

I've enclosed the letter and "Initial Notification Report" that was submitted to the Director of Air and Toxics Division of the U.S. Environmental Protection Agency in San Francisco for your review and files.

Please contact Jim W. Morrow if there are questions in regards to the report.

Sincerely,

John K. Tsukada
Division General Manager

MA 25448

**Island Commodities Company**

91-269 Olai Street, Kapolei, HI 96707 Phone: (808) 682-0726 Fax: (808) 682-4389

November 10, 2016

Director
Air and Toxics Division
U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105

Dear Sir/Madam:

Subject: Initial Notification Report
40 CFR 63, Subpart JJJJJ

Pursuant to 40 CFR 63, Subpart JJJJJ, we are submitting herewith an Initial Notification Report for our two (2) steam boilers.

Please contact me at (808) 682-5844 or our consultant, J. W. Morrow, at (808) 942-9096 if you or your staff have any questions regarding this submission.

Sincerely,

John K. Tsukada
Division General Manager

JT:jm

Enclosure

cf: HDOH CAB

Example Initial Notification Report

National Emission Standards for Hazardous Air Pollutants for
Industrial, Commercial, and Institutional Boilers Area Sources

SECTION I : GENERAL INFORMATION

Operating Permit Number (IF AVAILABLE)^a

Facility ID Number (IF AVAILABLE)^b

Pending with HI Department of Health

Responsible Official's Name

Title

John Tsukada

Division General Manager

Street Address

91-269 Olai Street

City

Kapolei

State

HI

ZIP Code

96707

^a (e.g., Title V permit number)

^b (e.g., Air Facility System (AFS) facility ID)

Facility Name

Island Commodities - Division of Baker Commodities, Inc.

Facility Street Address (if different than Responsible Official's Street Address listed above)

same as above

Street Address

City

State

ZIP Code

Facility Local Contact Name

Title

John Tsukada

Division General Manager

Anticipated Compliance Date(s) (mm/dd/yy) (§63.9(b)(2)(iii))^c: December 31, 2016

^c See instructions on pg. 3 of this form to determine the compliance dates applicable to you.

40 CFR Part 63 Subpart JJJJJJ

SECTION II: SOURCE DESCRIPTION

1. Please complete the table below for each affected boiler per §63.9(b)(2)(iv).

Emission Unit ID ^d	Emission Unit Name (design and manufacturer name)	Size: Rated Heat Input Capacity (mmBtu/hr) ^e	Fuels Used ^f
S/N S2500-150-47	Hurst 500 HP Steam Boiler	20.7 MMBTU/hr	Yellow Grease
S/N W481116-200-1	Hurst 150 HP Steam Boiler	6.2 MMBTU/hr	Yellow Grease

[Add rows to the table for additional boilers, as necessary.]

^d If the source has an operating permit, use the IDs that are consistent with those reported in the permit.

^e mmBtu/hr refers to million British thermal units per hour. Boilers often have a nameplate listing the rated heat input capacity on the unit. This rated capacity may have also been reported to the entity insuring the boiler or the state labor and safety inspector.

^f Report all fuels used in each of the units subject to the standard (e.g., bituminous coal, #6 fuel oil, #2 fuel oil, natural gas, bark, lumber, etc.).

3. Optional: Additional notes

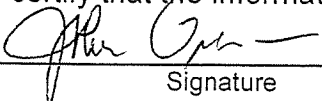
4. My facility is a (please choose one): Major source Area source

If your facility is a major source of hazardous air pollutants (HAP), please refer to the National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR Part 63 Subpart DDDDD at <http://www.epa.gov/ttn/atw/boiler/boilerpg.html>.

40 CFR Part 63 Subpart JJJJJJ

SECTION III: CERTIFICATION

I hereby certify that the information presented herein is correct to the best of my knowledge.



Signature

John Tsukada

Name/title

11/10/16

Date

(808) 682-5844

Telephone Number

40 CFR Part 63 Subpart JJJJJ