ADMINISTRATIVE RECORD

Alsco – American Linen Division

Application for Significant Modification No. 0024-13

Two (2) 400 HP Boilers

Located At: 2771 Wai Wai Loop, Honolulu, Oahu

CSP No. 0024-04-C

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

(Docket No. 22-CA-PA-12)

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 a DRAFT PERMIT AMENDMENT presently under review for:

Covered Source Permit (CSP) No. 0024-04-C
Application for Significant Modification No. 0024-13
Alsco – American Linen Division
Two (2) 400 HP Boilers
Located At: 2771 Wai Wai Loop, Honolulu, Hawaii

The DRAFT PERMIT AMENDMENT is described as follows:

Alsco operates two (2) 400 HP boilers at their existing facility. The amendment to CSP No. 0024-04-C would grant conditional approval for the following changes to the permit:

1. Add Unitek ECODIESEL as an allowable fuel for its two (2) 400 HP oil/gas fired boilers.
2. Increase the allowable sulfur content of fuel oil from 15 ppm (0.0015 wt%) to 500 ppm (0.05 wt%).

The sulfur dioxide (SO2) emissions from the boilers would increase from 0.07 tons/year to 2.38 tons/year as a result of increasing the allowable sulfur content of fuel oil from 15 ppm to 500 ppm.

The facility is subject to 40 CFR Part 60, Subpart Dc, Standards of Performance for Small Industrial – Commercial – Institutional Steam Generating Units; and 40 CFR Part 63, Subpart JJJJJJ, National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers.

The ADMINISTRATIVE RECORD, consisting of the APPLICATION and non-confidential supporting materials from the applicant, the permit review summary, and the DRAFT PERMIT AMENDMENT, is available online at: http://health.hawaii.gov/cab/public-notices/ and for public inspection during regular office hours, Monday through Friday, 7:45 a.m. to 4:15 p.m., at the following location:

State of Hawaii
Clean Air Branch
2827 Waimano Home Road, #130
Pearl City, Hawaii 96782
All comments on the draft permit amendment and any request for a public hearing must be in writing, addressed to the Clean Air Branch at the above address and must be postmarked or received by **October 21, 2022**.

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. 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 (30) days in advance of the hearing.

Interested persons may obtain copies of the administrative record or parts thereof by paying **five (5) cents per page copying costs**. Please send written requests to the Clean Air Branch listed above or call Mr. Darin Lum at the Clean Air Branch at (808) 586-4200.

Comments on the draft permit amendment 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.

DOH will make a final decision on the permit amendment 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
Mr. Brian P. Arkle  
General Manager  
Alsco - American Linen Division  
2771 Wai Wai Loop  
Honolulu, Hawaii 96819

Dear Mr. Arkle:

SUBJECT: Covered Source Permit (CSP) No. 0024-04-C  
Application for Significant Modification No. 0024-13  
Alsco - American Linen Division  
Two (2) 400 HP Boilers  
Located At: 2771 Wai Wai Loop, Honolulu, Oahu  
Date of Expiration: March 26, 2024

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 significant modification application received on November 8, 2021. This permit shall supersede CSP No. 0024-04-C issued on March 27, 2019, in its entirety.

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
- Monitoring Report Form: Opacity Exceedances
- Monitoring Report Form: Fuel Consumption and Fuel Certification
- Monitoring Report Form: Biennial Boiler Tune-Up
Annual Emissions Report Form – Boilers
Annual Compliance Certification Report Form – 400 HP Superior Boiler
Biennial Compliance Certification Report Form – 400 HP Cleaver Brooks Boiler

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 Mr. Darin Lum of the Clean Air Branch at (808) 586-4200.

Sincerely,

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

DL:tkg

Enclosures
ATTACHMENT I: STANDARD CONDITIONS
COVERED SOURCE PERMIT NO. 0024-04-C

Issuance Date:  DATE  
Expiration Date:  March 26, 2024

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 determines 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  
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. 0024-04-C

Issuance Date: DATE  Expiration Date: March 26, 2024

In addition to the Standard Conditions of the CSP, the following emissions unit(s) is subject to the Special Conditions listed below:

Section A. Equipment Description

1. This permit encompasses the following equipment and associated appurtenances:

   a. One (1) 400 HP Cleaver Brooks boiler (Model No. CB-400, 16.8 MMBtu/hr, Serial No. L-65130); and
   b. One (1) 400 HP Superior boiler equipped with an economizer (Model No. 7-5-2000-S150-PF-GA2, 16.8 MMBtu/hr, Serial No. 17003).

   (Auth.: HAR §11-60.1-3)

2. An identification tag or name plate shall be displayed on each boiler listed above to show model no., serial no., and manufacturer. The identification tag or name plate 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 400 HP Cleaver Brooks boiler is subject to the provisions of the following federal regulations:


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

2. The 400 HP Superior boiler is subject to the provisions of the following federal regulations:

   a. 40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS), Subpart A, General Provisions;
   b. 40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS), 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 for Source Categories, Subpart A, General Provisions; and
Section C. Operational Limitations

1. The two (2) 400 HP boilers may be operated simultaneously at any given time.

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

2. The boilers shall be fired on either ultra-low sulfur diesel (ULSD) fuel with a sulfur content less than or equal to 15 ppm, Unitek ECODIESEL with a sulfur content less than or equal to 500 ppm, or synthetic natural gas (SNG). The fuel oil sulfur limits shall apply at all times, including periods of startup, shutdown, and malfunction.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90; 40 CFR §60.42c)\(^1\)

3. The total combined ULSD or ECODIESEL usage for the two (2) boilers shall not exceed 670,000 gallons in any rolling twelve (12) month period.

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

4. The permittee shall not discharge or cause the discharge into the atmosphere from the 400 HP Superior boiler in excess of the following emission rate while fired on ECODIESEL, except during periods of startup and shutdown:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Limit (3-hr Avg.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM (filterable)</td>
<td>0.03 lb/MMBtu</td>
</tr>
</tbody>
</table>

(Auth.: HAR §11-60.1-3, §11-60.1-90; 40 CFR §63.11201, Table 1 of Subpart JJJJJJ)\(^1\)
5. 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 startup, 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.

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

6. The boilers shall be properly maintained and kept in good operating condition at all times.

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

7. The permittee shall follow a regular maintenance schedule to ensure proper operation of the boilers as recommended by the manufacturer; and/or as needed.

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

8. Startups and Shutdowns

The permittee shall minimize the 400 HP Superior boiler’s startup and shutdown periods and conduct startups and shutdowns according to the manufacturer’s recommended procedures, if available. If manufacturer’s recommended procedures are not available, you must follow recommended procedures for a unit of similar design for which manufacturer’s recommended procedures are available.

(Auth.: HAR §11-60.1-3, §11-60.1-90; 40 CFR §63.11214, §63.11223, Table 2 of Subpart JJJJJJ)

9. Boiler Performance Tune-ups

a. The permittee shall conduct an initial tune-up of the 400 HP Superior boiler no later than twenty-five (25) months after the initial startup of the boiler, and shall conduct a tune-up of the boiler biennially thereafter to demonstrate continuous compliance. The tune-up must be conducted while burning the type of fuel (or fuels in the case of boilers that routinely burn two (2) types of fuels at the same time) that provide the majority of the heat input to the boiler over the twelve (12) months prior to the tune-up. Each biennial tune-up must be conducted no more than twenty-five (25) months after the previous tune-up. The tune-up shall be conducted as described in Attachment II, Special Condition No. C.9.c.

b. The permittee shall conduct an initial tune-up of the 400 HP Cleaver Brooks boiler no later than March 21, 2014, shall conduct a tune-up of the boiler no later than September 27, 2019, and shall conduct a tune-up of the boiler biennially thereafter to demonstrate continuous compliance. The tune-up must be conducted while burning the type of fuel (or fuels in the case of boilers that routinely burn two (2) types of fuels at the same time) that provide the majority of the heat input to the boiler over the twelve (12) months prior to the tune-up. Each biennial tune-up must be conducted no more than twenty-five (25) months after the previous tune-up. The tune-up shall be conducted as described in Attachment II, Special Condition No. C.9.c.
c. The tune-up shall be conducted as follows:

i. As applicable, inspect the burner and clean or replace any components of the burner as necessary (the burner inspection may be delayed until the next scheduled boiler shutdown, not to exceed thirty-six (36) months from the previous inspection);

ii. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer’s specifications, if available;

iii. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (the inspection may be delayed until the next scheduled boiler shutdown, not to exceed thirty-six (36) months from the previous inspection);

iv. Optimize total emissions of carbon monoxide (CO). This optimization should be consistent with the manufacturer’s specifications, if available, and with any nitrogen oxide (NOₓ) requirement to which the boiler is subject;

v. Measure the concentrations in the effluent stream of CO in ppm 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;

vi. Maintain a report on-site containing the following information:

(1) The concentrations of CO in the effluent stream in ppm by volume and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler;

(2) A description of any corrective actions taken as part of the tune-up of the boiler;

(3) The type and amount of fuel used over the twelve (12) months prior to the tune-up of the boiler, but only if the boiler was physically and legally capable of using more than one (1) type of fuel during that period. Boilers sharing a fuel meter may estimate the fuel use by each boiler.

vii. If the boiler 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)

10. Energy Assessment

The permittee shall have an energy assessment for the 400 HP Cleaver Brooks boiler performed by a qualified energy assessor not later than March 21, 2014. An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements listed below satisfies the energy assessment requirement. Energy assessor approval and qualification requirements are waived in instances where past or amended energy assessments are used to meet the energy
assessment requirements. A facility that operated under an energy management program developed according to the ENERGY STAR guidelines for energy management or compatible with ISO 50001 for at least one (1) year between January 1, 2008, and March 21, 2014, that includes the affected units also satisfies the energy assessment requirement. The energy assessment must also include the following with extent of the evaluation for items (a) to (d) appropriate for the on-site technical hours listed in 40 CFR §63.11237:

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(s) and which are under control of the boiler owner or operator;
d. A review of available architectural and engineering plans, facility operation and maintenance procedure 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, §11-60.1-90; 40 CFR §63.11214)

11. Operating Load

For the 400 HP Superior boiler, the operating load shall be maintained such that it does not exceed 110 percent of the average operating load recorded during the most recent performance stack test. The average operating load shall be determined using the procedures specified in Table 6 of Subpart JJJJJ, Item No. 4 (a), (b), and (c).

(Auth.: HAR §11-60.1-3, §11-60.1-90; 40 CFR §63.11212, Tables 3 and 6 of Subpart JJJJJ)

Section D. Monitoring and Recordkeeping Requirements

1. All records, including support information, shall be maintained for at least five (5) years from the date of any required monitoring, recordkeeping, testing, or reporting. 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 their representative upon request.

(Auth.: HAR §11-60.1-3, §11-60.1-11, §11-60.1-90)
2. The permittee shall operate and maintain a non-resetting fuel meter to permanently measure the total gallons of ULSD or ECODIESEL used for the two (2) boilers. Monthly records shall be kept on the beginning fuel meter readings and the total gallons consumed. Monthly operational summaries shall include the total gallons of ULSD or ECODIESEL consumed for that month and the total gallons on a rolling twelve (12) month basis. The non-resetting fuel meter shall not allow the manual resetting or other manual adjustments of the meter readings. The installation of any new non-resetting fuel meter or the replacement of any existing non-resetting fuel meter shall be designed to accommodate a minimum of five (5) years of equipment operation, considering any operational limitations, before the meter returns to a zero reading.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90; 40 CFR §60.48c, §63.11225)

3. Fuel purchase receipts shall be maintained, showing the fuel type, sulfur content for ULSD or ECODIESEL (ppm), date of delivery, and amount (gallons) of fuel delivered to the site for the boilers covered under this permit. Fuel oil sulfur content compliance may be demonstrated by providing a fuel supplier certification for the type of fuel purchased and received. The fuel supplier certification shall include the following information:

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

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90; 40 CFR §60.42c, §60.48c)

4. The permittee shall maintain records on inspections, maintenance, and any repair work conducted on the boilers. At a minimum, these records shall include: the date of the inspection; inspectors name/title; a short description of the action and/or any such repair work; and a description of the part(s) inspected or repaired.

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

5. Visible Emissions

The permittee shall conduct monthly (calendar month) VE observations for each boiler by a certified reader in accordance with 40 CFR Part 60, Appendix A, Method 9, or U.S. EPA approved equivalent methods, or alternate methods with prior written approval from the Department and U.S. EPA. For each month, two (2) consecutive six (6) minute observations shall be taken at fifteen (15) second intervals. 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)
6. The permittee shall maintain records required by 40 CFR Part 63, Subpart JJJJJJ, for the boilers as specified in 40 CFR §63.11225(c) and (d) including the following:

   a. The permittee shall keep a copy of each notification and report submitted for compliance 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. For the 400 HP Superior boiler, records of monthly fuel use by the boiler, including the type(s) of fuel and amount(s) used;
   d. For the 400 HP Cleaver Brooks boiler, a copy of the energy assessment report;
   e. Records of the occurrence and duration of each malfunction of the boiler or of the associated air pollution control and monitoring equipment;
   f. Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in 40 CFR §63.11205(a), including corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation; and
   g. 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, §11-60.1-90; 40 CFR §63.11225)

7. Operating Load

The permittee shall install, operate, and maintain operating load monitors (fuel feed monitors or steam generation monitors) to collect operating load data. The operating load of the 400 HP Superior boiler shall be monitored as follows:

   a. Collecting operating load data (fuel feed rate or steam generation data) every fifteen (15) minutes; and
   b. Reducing the data to thirty-day (30-day) rolling averages; and
   c. Maintaining the thirty-day (30-day) rolling average at or below the operating limit established during the performance test according to 40 CFR §63.11212(c) and Table 6 of Subpart JJJJJJ.

(Auth.: HAR §11-60.1-3, §11-60.1-90; 40 CFR §63.11222, Tables 6 and 7 of Subpart JJJJJJ)
Section E. Notification and Reporting Requirements

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

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

   (Auth.: HAR §11-60.1-8, §11-60.1-15, §11-60.1-16, §11-60.1-90)

2. The permittee shall report **within five (5) working days** any deviations from permit requirements, including those attributable to upset conditions, the probable cause of such deviations and any corrective actions or preventative measures taken. Corrective actions may include a requirement for more frequent monitoring, or could trigger implementation of a corrective action plan.

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

3. Monitoring Reports

   The permittee shall submit **semi-annually** the following written reports to the Department for monitoring purposes. The report shall be submitted **within sixty (60) days after the end of each semi-annual calendar period (January 1 to June 30 and July 1 to December 31)**, shall be signed and dated by a responsible official and shall include the following:

   a. The total combined fuel consumption (gallons) of ULSD or ECODIESEL for the two (2) boilers on a monthly and rolling twelve (12) month basis, and the maximum sulfur content (percent by weight) of the fuel oil. Also, a certified statement that the records of fuel supplier certifications submitted represent all of the fuel oil combusted during the reporting period.

   The enclosed Monitoring Report Form: Fuel Consumption and Fuel Certification, shall be used for reporting.

   b. Any opacity exceedances as determined by the required VE monitoring. Each exceedance reported shall include the date, six (6) minute average opacity reading, possible reason for exceedance, duration of exceedance, and corrective actions taken.

   If there are no exceedances, the permittee shall submit in writing a statement indicating that for each equipment there were no exceedances for that semi-annual period.

   The enclosed Monitoring Report Form: Opacity Exceedances shall be used.
c. Any deviations from permit requirements shall be clearly identified.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90; 40 CFR §60.48c, §63.11223)³

4. Tune-up Reports

The permittee shall submit within **sixty (60) days** after each tune-up, the attached **Monitoring Report Form: Biennial Boiler Tune-up**, to the Department.

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

5. 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:

a. The identification of each term or condition of the permit that is the basis of the certification;
b. The compliance status;
c. Whether compliance was continuous or intermittent;
d. The methods used for determining the compliance status of the source currently and over the reporting period;
e. 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;
f. 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
g. 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.

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

a. The permittee shall submit the following notifications for the 400 HP Cleaver Brooks boiler to the Department and U.S. EPA, Region 9, in accordance with 40 CFR §63.11225(a):

i. An Initial Notification of Applicability no later than January 20, 2014;
ii. A Notification of Compliance Status no later than July 19, 2014. In addition to the information required by 40 CFR §63.9(h)(2), except for the information listed in §63.9(h)(2)(i)(B), (D), (E), and (F), the notification must include the following certifications of compliance that is signed by a responsible official:

(1) “This facility complies with the requirements of 40 CFR §63.11214 to conduct an initial tune-up of the boiler.”
(2) “This facility has had an energy assessment performed according to 40 CFR §63.11214(c).”
(3) “No secondary materials that are solid waste were combusted in the affected unit.”

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

b. The permittee shall submit the following notifications for the 400 HP Superior boiler to the Department and U.S. EPA, Region 9, in accordance with 40 CFR §63.11225(a):

i. An Initial Notification of Applicability within 120 days after initial startup of the boiler;
ii. A Notification of Intent to conduct a performance stack test at least sixty (60) days before the performance stack test is scheduled to begin;
iii. A Notification of Compliance Status within sixty (60) days of completing the stack performance test of the 400 HP Superior boiler pursuant to Attachment II, Special Condition No. F.1. The Notification of Compliance Status must include the following information and certifications of compliance and signed by a responsible official.
(1) The information required by 40 CFR §63.9(h)(2), except for the information listed in §63.9(h)(2)(i)(B), (D), (E), and (F).

(2) “This facility complies with the requirements of 40 CFR §63.11214 to conduct an initial tune-up of the boiler.”

(3) “No secondary materials that are solid waste were combusted in the affected unit.”

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

(Auth.:  HAR §11-60.1-3, §11-60.1-15, §11-60.1-90; 40 CFR §63.11214, §63.11223, §63.11225)

7. Annual Compliance Certification Report

Beginning in 2023 and every year thereafter, the permittee shall prepare by March 1, the attached Annual Compliance Certification Report Form: 400 HP Superior Boiler, for the previous calendar year for the 400 HP Superior boiler in accordance with 40 CFR §63.11225(b). The Annual Compliance Certification Report Form: 400 HP Superior Boiler shall be submitted, upon request, to the Department and U.S. EPA, Region 9. The Annual Compliance Certification Report Form: 400 HP Superior Boiler shall be submitted to the Department and U.S. EPA, Region 9, by March 15 of each year, if there are deviations from the applicable requirements of 40 CFR Part 63, Subpart JJJJJJJ; include a description of deviations, the time periods during which the deviations occurred, and the corrective actions taken.

(Auth.:  HAR §11-60.1-3, §11-60.1-15, §11-60.1-90; 40 CFR §63.11225)

8. Biennial Compliance Certification Report

Beginning in 2020 and every biennial year thereafter, the permittee shall prepare by March 1, the attached Biennial Compliance Certification Report Form: 400 HP Cleaver Brooks Boiler, for the previous calendar year for the 400 HP Cleaver Brooks boiler in accordance with 40 CFR §63.11225(b). The Biennial Compliance Certification Report Form: 400 HP Cleaver Brooks Boiler shall be submitted, upon request, to the Department and U.S. EPA, Region 9.

(Auth.:  HAR §11-60.1-3, §11-60.1-15, §11-60.1-90; 40 CFR §63.11225)
9. The permittee shall notify the Department and U.S. EPA, Region 9, within **thirty (30) days** of switching fuels or making a physical change to a boiler that results in the applicability of a different subcategory within 40 CFR Part 60, Subpart JJJJJJJ, or in the boiler switching out of Subpart JJJJJJJ, due to a switch to firing only SNG. The notification shall include the following:

   a. The permittee’s name and permit number, the location of the affected source, the boiler(s) that have switched fuels or were physically changed, and the date of the notice; and
   
   b. The date the permittee switched fuels or made the physical change.

   (Auth.: HAR §11-60.1-3, §11-60.1-15, §11-60.1-90; 40 CFR §63.11225) ¹

10. **Annual Emissions**

   As required by **Attachment IV: Annual Emissions Reporting Requirements** and in conjunction with the requirements of **Attachment III: Annual Fee Requirements**, the permittee shall report **annually** the total tons/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**. The enclosed **Annual Emissions Report Form: Boilers**, shall be used. Upon the written request of the permittee, the deadline for reporting of annual emissions may be extended, if the Department determines that reasonable justification exists for the extension.

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

**Section F. Testing Requirements**

1. **Boiler Performance Testing**

   Within **sixty (60) days** of firing ECODIESEL in the 400 HP Superior boiler, and **triennially** thereafter, the permittee shall conduct, or cause to be conducted, performance tests on the 400 HP Superior boiler to determine the emission rates of PM for the purpose of determining compliance with the emission limit provided for under **Attachment II, Special Condition No. C.4**. Triennial performance tests must be completed no more than thirty-seven (37) months after the previous performance test. The permittee shall not conduct performance tests during periods of startup, shutdown, or malfunction. The performance tests shall be conducted at the representative operating load conditions.
When demonstrating initial compliance with the PM (filterable) emission limit, if the boiler’s performance test results show that the PM (filterable) emissions are equal to or less than half of the PM (filterable) emission limit, performance tests for PM (filterable) may be conducted every fifth year, but each performance test must be conducted no more than sixty-one (61) months after the previous performance test. If the performance test results show that the PM (filterable) emissions are greater than half of the PM (filterable) emission limit, subsequent performance tests must be conducted on a triennial basis.

(Auth.: HAR §11-60.1-3, §11-60.1-11, §11-60.1-90; 40 CFR §63.7, §63.11196, §63.11205, §63.11210, §63.11211, §63.11212, §63.11220)¹

2. Boiler Test Methods

Performance tests for PM (filterable) shall be conducted in accordance with 40 CFR §63.7(c), (d), (f), and (h), using the test methods set forth in 40 CFR Part 60, Appendix A-1, A-2, A-3, A-6, and A-7. The following test methods or U.S. EPA approved equivalent methods or other methods with prior written consent from the Department and U.S. EPA shall be used.

a. Method 1 shall be used to select sample ports location and the number of traverse points.
b. Method 2, 2F, or 2G shall be used to determine velocity and volumetric flow rate of the stack gas.
c. Method 3A or 3B shall be used to determine oxygen and carbon dioxide concentrations of the stack gas.
d. Method 4 shall be used to measure moisture content of the stack gas.
e. Method 5 or 17 shall be used to measure the PM (filterable) emission concentration.
f. Method 19 F-factor methodology shall be used to convert PM (filterable) emission concentrations to lb/MMBtu emission rates.
g. The performance test shall consist of three (3) separate runs using the applicable test method. For the purpose of determining compliance with the permit requirements, the arithmetic mean of the results from the three (3) runs shall apply.

(Auth.: HAR §11-60.1-3, §11-60.1-11, §11-60.1-90; 40 CFR §63.7, §63.11212, Table 4 of Subpart JJJJJJ)¹

3. Note that Method 1 cannot be used under the following conditions:

a. Cyclonic or swirling gas flow at the sampling location;
b. Stack or duct with a diameter less than twelve (12) inches or a cross-sectional area less than 113 square inches; or
c. Sampling location less than two (2) stack or duct diameters downstream or less than a half diameter upstream from a flow disturbance.

(Auth.: HAR §11-60.1-3, §11-60.1-11, §11-60.1-90; 40 CFR Part 60 Appendix A-1)¹
4. Test Expense and Monitoring

The performance tests shall be made at the expense of the permittee. All performance tests may be monitored by the Department.

(Auth.: HAR §11-60.1-3, §11-60.1-11, §11-60.1-90; 40 CFR §63.7)\(^1\)

5. Test Plan

At least sixty (60) days prior to conducting a performance test, the permittee shall submit a written performance test plan to the Department and U.S. EPA, Region 9, that includes test dates and duration, test locations, test methods, source operation (including operating load), and other parameters that may affect the test results. Such a plan shall conform to U.S. EPA guidelines including quality assurance procedures. A test plan or quality assurance plan that does not have the approval of the Department may be grounds to invalidate any test and require a retest.

(Auth.: HAR §11-60.1-3, §11-60.1-11, §11-60.1-90; 40 CFR §63.7, §63.11212)\(^1\)

6. Test Scheduling

In the event the initially scheduled performance test is unable to be conducted due to unforeseeable circumstances beyond the permittee’s control, the permittee shall submit a notice to the Department as soon as practicable and without delay prior to the scheduled performance test data and specify the date when the performance test is rescheduled.

(Auth.: HAR §11-60.1-3, §11-60.1-11, §11-60.1-90; 40 CFR §63.7)\(^1\)

7. Test Deviations

Any deviations from these conditions, test methods, or procedures may be cause for rejection of the test results unless such deviations are approved by the Department before the tests.

(Auth.: HAR §11-60.1-3, §11-60.1-11, §11-60.1-90; 40 CFR §63.7)\(^1\)

8. Test Report

Within sixty (60) days after completion of a performance test, the permittee shall submit to the Department and U.S. EPA, Region 9, the test report which shall include the operating conditions of the boiler at the time of the test (including operating load), the summarized test results, a comparison of test results to permit emission limits, pertinent support calculations, and field and laboratory data. The results shall be recorded and reported in accordance with 40 CFR §63.7 and 40 CFR Part 60, Appendix A. The permittee shall submit the results of the stack performance tests electronically to the EPA via the Compliance and Emissions Data
Reporting Interface (CEDRI) by using the Electronic Reporting Tool (ERT) or other compatible electronic spreadsheet. CEDRI is accessed through EPA’s Central Data Exchange (CDX). Only data collected using test methods compatible with ERT are subject to this requirement to be submitted electronically into EPA’s WebFIRE database, otherwise the test report shall be submitted to EPA’s address listed in Attachment II, Special Condition No.E.6.

(Auth.: HAR §11-60.1-3, §11-60.1-11, §11-60.1-90; 40 CFR §63.7, §63.10, §63.11210, §63.11225)

9. Test Waiver

Upon written request and justification, the Department may waive the requirement for, or a portion of, a specific source performance test. The waiver request is to be submitted prior to the required test and must include documentation justifying such action. Documentation should include, but is not limited to, the results of the prior performance test indicating compliance by a wide margin, documentation of continuing compliance, and further that operations of the source have not changed since the previous source test.

(Auth.: HAR §11-60.1-3, §11-60.1-11, §11-60.1-90, 40 CFR §63.7)

Section G. 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)

\(^1\)The 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.

\(^2\)The citations to the State Implementation Plan (SIP) identified under a particular condition, indicate that the permit condition complies with the specified provision(s) of the SIP.
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 VE, fugitive dust, incineration, process industries, sulfur oxides from fuel combustion, storage of volatile organic compounds, volatile organic compound water separation, pump and compressor requirements, and waste gas disposal.

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

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. 0024-04-C

Issuance Date: DATE  Expiration Date: March 26, 2024

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 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.

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. 0024-04-C

Issuance Date: DATE  Expiration Date: March 26, 2024

In accordance with the HAR, Title 11, Chapter 60.1, Air Pollution Control, the permittee shall report to the Department 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 within sixty (60) days after the end of each calendar year and shall be mailed to the following address:

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

3. The permittee shall retain the information submitted, including all emission calculations. These records shall be in a permanent form suitable for inspection, retained for a minimum of five (5) years, and made available to the Department upon request.

4. Any information submitted to the Department without a request for confidentiality shall be considered public record.

5. In accordance with HAR, Section 11-60.1-14, the permittee may request confidential treatment of specific information, including information concerning secret processes or methods of manufacture, by submitting a written request to the Director and clearly identifying the specific information that is to be accorded confidential treatment.
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 of Health.

(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.
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

<table>
<thead>
<tr>
<th>Permit term/condition</th>
<th>Equipment</th>
<th>Compliance</th>
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### B. Special Conditions - Monitoring, Recordkeeping, Reporting, Testing, and INSIG

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<tr>
<td>All recordkeeping conditions</td>
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</tr>
<tr>
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<td>All Equipment listed in the permit</td>
<td>☐ Continuous □ Intermittent</td>
</tr>
<tr>
<td>All INSIG conditions</td>
<td>All Equipment listed in the permit</td>
<td>☐ Continuous □ Intermittent</td>
</tr>
</tbody>
</table>
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, B.1, Attachment IIA, Special Condition No. B.1.f, etc.). Each 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.

<table>
<thead>
<tr>
<th>Permit term/condition</th>
<th>Equipment</th>
<th>Method</th>
<th>Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>☐ monitoring</td>
<td>□ Continuous</td>
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<td>☐ monitoring</td>
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<td>☐ monitoring</td>
<td>□ Intermittent</td>
</tr>
</tbody>
</table>

(Make Additional Copies if Needed)
D. Deviations

<table>
<thead>
<tr>
<th>Permit Term/Condition</th>
<th>Equipment / Brief Summary of Deviation*</th>
<th>Deviation Period time (am/pm) &amp; date (mo/day/yr)</th>
<th>Date of Written Deviation Report to DOH (mo/day/yr)</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Beginning:</td>
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<td>Beginning:</td>
<td>Ending:</td>
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</tbody>
</table>

*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)
MONITORING REPORT FORM
OPACITY EXCEEDANCES
COVERED SOURCE PERMIT NO. 0024-04-C

Issuance Date: DATE Expiration Date: March 26, 2024

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:

I certify that I have knowledge of the facts herein set forth, that the same are true, accurate, and complete to the best of my knowledge and belief, and that all information not identified by me as confidential in nature shall be treated by the Department of Health as public record.

Responsible Official (print):

Title:

Responsible Official (signature):

Visible Emissions:

Report the following on the lines provided below: all date(s) and six (6) minute average opacity reading(s) which the opacity limit was exceeded during the monthly observations; or if there were no exceedances during the monthly observations, then write “no exceedances” in the comment column.

<table>
<thead>
<tr>
<th>EQUIPMENT or EMISSION POINT DESCRIPTION</th>
<th>SERIAL/ID NO.</th>
<th>DATE</th>
<th>6 MIN. AVER. (%)</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>
MONITORING REPORT FORM
FUEL CONSUMPTION AND FUEL CERTIFICATION
COVERED SOURCE PERMIT NO. 0024-04-C

Issuance Date: DATE
Expiration Date: March 26, 2024

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/Facility Name: _______________________________________
Equipment Location: ___________________________________________
Equipment Description: _________________________________________
Serial/ID No: ______________________________

I certify that I have knowledge of the facts herein set forth, that the same are true, accurate, and complete to the best of my knowledge and belief, and that all information not identified by me as confidential in nature shall be treated by the Department of Health as public record.

Responsible Official (print):_____________________________________
Title: _______________________________________________________
Responsible Official (signature):____________________________

1. Total Combined ULSD or ECODIESEL Consumption - Two (2) Boilers

<table>
<thead>
<tr>
<th>MONTH</th>
<th>MONTHLY TOTAL (GALLONS)</th>
<th>ROLLING 12-MONTH TOTAL (GALLONS)</th>
<th>FUEL METER READINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>JANUARY</td>
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<tr>
<td>FEBRUARY</td>
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<td>MARCH</td>
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<td>JUNE</td>
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<td>JULY</td>
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<td>AUGUST</td>
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<td>SEPTEMBER</td>
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<tr>
<td>OCTOBER</td>
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<tr>
<td>NOVEMBER</td>
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<tr>
<td>DECEMBER</td>
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</tbody>
</table>

2. Maximum sulfur content by weight of fuel oil: _______________

3. I certify that the records of fuel supplier certifications submitted represent all of the fuel oil combusted during the reporting period: Yes _____ No _____
MONITORING REPORT FORM
BIENNIAL BOILER TUNE-UP
COVERED SOURCE PERMIT NO. 0024-04-C
(PAGE 1 OF 2)

Issuance Date: DATE Expiration Date: March 26, 2024

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 Additional Use)

For Reporting Period: ____________________________ Date: ________________
Company 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): _____________________________________
Date(s) of boiler tune-up: __________________________________________

1. Report in the following tables: CO concentrations in the effluent stream in ppm, by volume, and oxygen in volume percent, measured before and after each boiler tune-up:

<table>
<thead>
<tr>
<th>400 HP Superior Boiler Before Tune-up</th>
<th>400 HP Superior Boiler After Tune-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO Concentration (ppm by volume)</td>
<td>Oxygen (Volume Percent)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>400 HP Cleaver Brooks Boiler Before Tune-up</th>
<th>400 HP Cleaver Brooks Boiler After Tune-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO Concentration (ppm by volume)</td>
<td>Oxygen (Volume Percent)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2. Report in the following tables, the fuel fired by the boiler over the twelve (12) months prior to the biennial tune-up:

<table>
<thead>
<tr>
<th>Boiler No.</th>
<th>Fuel Type</th>
<th>Maximum Weight % Sulfur Content</th>
<th>Total Amount of Fuel Used Prior to Biennial Tune-up (gallons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>400 HP Superior Boiler</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Boiler No.</th>
<th>Fuel Type</th>
<th>Maximum Weight % Sulfur Content</th>
<th>Total Amount of Fuel Used Prior to Biennial Tune-up (gallons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>400 HP Cleaver Brooks Boiler</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. Report in the following tables, corrective actions taken as part of the boiler tune-up for the reporting period:

<table>
<thead>
<tr>
<th>Boiler No.</th>
<th>Corrective Action Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>400 HP Superior Boiler</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Boiler No.</th>
<th>Corrective Action Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>400 HP Cleaver Brooks Boiler</td>
<td></td>
</tr>
</tbody>
</table>
ANNUAL EMISSIONS REPORT FORM
BOILERS
COVERED SOURCE PERMIT NO. 0024-04-C

Issuance Date: DATE Expiration Date: March 26, 2024

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 annually:

(Make Copies for Future Use)

For Period: _____________________________ Date: ____________

Company/Facility Name: _____________________________

Equipment Location: _____________________________

Equipment Description: _____________________________

Serial/ID No: _____________________________

I certify that I have knowledge of the facts herein set forth, that the same are true, accurate, and complete to the best of my knowledge and belief, and that all information not identified by me as confidential in nature shall be treated by the Department of Health as public record.

Responsible Official (print): _____________________________

Title: _____________________________

Responsible Official (signature): _____________________________

<table>
<thead>
<tr>
<th>Fuel Fired</th>
<th>400 HP Superior Boiler Fuel Consumption (ft³/year for SNG, gallons/year for ULSD or ECODIESEL)</th>
<th>400 HP Cleaver Brooks Boiler Fuel Consumption (ft³/year for SNG, gallons/year for ULSD or ECODIESEL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SNG</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ULSD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECODIESEL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ANNUAL COMPLIANCE CERTIFICATION REPORT FORM
400 HP SUPERIOR BOILER
COVERED SOURCE PERMIT NO. 0024-04-C

Issue Date: DATE Expiration Date: March 26, 2024

In accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, the permittee shall report to the Department of Health and U.S. Environmental Protection Agency, Region 9, the following information in accordance with Attachment II, Special Condition No. E.7:

(Make Copies for Additional Use)

For Reporting Period: __________________________ Date: __________________________

Company Name and Address: ______________________________________________

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): ________________________________________________

1. Provide in the table below, information on whether or not the boiler complies with all relevant standards and other requirements of 40 CFR Part 63, Subpart JJJJJJ:

<table>
<thead>
<tr>
<th>Boiler No.</th>
<th>Does Boiler Comply with 40 CFR Part 63, Subpart JJJJJJ?</th>
<th>Date of Most Recent Boiler Tune-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>400 HP Superior Boiler</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

2. “This facility complies with the requirements of 40 CFR §63.11223 to conduct a biennial tune-up of the boiler.”
   Yes ____ No ______

3. “No secondary materials that are solid waste were combusted in any affected unit.”
   Yes ____ No ______

4. “This facility complies with the requirements in 40 CFR §63.11214(d) and §63.11223(g) to minimize the boiler’s time spent during startup and shutdown and to conduct startups and shutdowns according to the manufacturer’s recommended procedures or procedures specified for a boiler of similar design if manufacturer’s recommended procedures are not available.”
   Yes ____ No ______

5. If applicable, provide in the table below, a description of deviations from the applicable requirements from 40 CFR Part 63, Subpart JJJJJJ, the time periods during which the deviations occurred, and the corrective actions taken:

<table>
<thead>
<tr>
<th>Boiler No.</th>
<th>Deviation Description</th>
<th>Deviation Time Period</th>
<th>Corrective Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>400 HP Superior Boiler</td>
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</tbody>
</table>

6. Report the total fuel use by the 400 HP Superior boiler, for each calendar month within the reporting period including, but not limited to, a description of the fuel, and total fuel usage amounts with units of measure.
BIENNIAL COMPLIANCE CERTIFICATION REPORT FORM
400 HP CLEAVER BROOKS BOILER
COVERED SOURCE PERMIT NO. 0024-04-C

Issuance Date: DATE Expiration Date: March 26, 2024

In accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, the permittee shall report to the Department of Health and U.S. Environmental Protection Agency, Region 9, the following information in accordance with Attachment II, Special Condition No. E.8:

(Make Copies for Additional Use)

For Reporting Period: _________________________________ Date: __________________

Company Name and Address: ________________________________________________

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): ____________________________________________

1. Provide in the table below, information on whether or not the boiler complies with all relevant standards and other requirements of 40 CFR Part 63, Subpart JJJJJ:

<table>
<thead>
<tr>
<th>Boiler No.</th>
<th>Does Boiler Comply with 40 CFR Part 63, Subpart JJJJJ?</th>
<th>Date of Most Recent Boiler Tune-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>400 HP Cleaver Brooks Boiler</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

2. “This facility complies with the requirements of 40 CFR §63.11223 to conduct a biennial tune-up of the boiler.”
   Yes _____ No _____

3. “No secondary materials that are solid waste were combusted in any affected unit.”
   Yes _____ No _____
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. EPA approved equivalent methods, or alternative methods with prior written approval from the Department and U.S. EPA. 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, 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.
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 (°F):  
Observer Name:  
Certified? (Yes/No):  

Observation Date and Start Time:  

<table>
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<tr>
<th>MINUTES</th>
<th>0</th>
<th>15</th>
<th>30</th>
<th>45</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
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Six (6) Minute Average Opacity Reading (%):  

Observation Date and Start Time:  

<table>
<thead>
<tr>
<th>MINUTES</th>
<th>0</th>
<th>15</th>
<th>30</th>
<th>45</th>
<th>COMMENTS</th>
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</table>

Six (6) Minute Average Opacity Reading (%):  

Observer Position:  
Sun Location Line:  
Emission Point:  
Draw North Arrow:  

Issue Date: DATE  
Expiration Date: March 26, 2024  
(Make Copies for Future Use for Each Stack or Emission Point)
Draft Review Summary
# Permit Application Review Summary

**Application No.**  
Significant Modification Application No. 0024-13

**Permit No.:**  
Covered Source Permit (CSP) No. 0024-04-C

**Facility Title:**  
Alsco – American Linen Division  
Two (2) 400 HP boilers  
2771 Wai Wai Loop  
Honolulu, Hawaii 96819  
UTM: 613,985 m E, 2,359,458 m N, Zone 4, NAD-83

**Mailing Address:**  
Alsco – American Linen Division  
2771 Wai Wai Loop  
Honolulu, Hawaii 96819

**Responsible Official:**  
Mr. Brian Arkle  
General Manager  
Ph: 834-7503

**Plant Manager:**  
Mr. Romel Marcelino  
Chief Engineer  
Ph: 834-7500

**Consultant:**  
Jim Morrow  
Ph: 942-9096

**Application Date:**  
November 8, 2021

**Proposed Project:**  
SICC 7211 (Power Laundries, Family and Commercial)

The applicant has a facility that consists of two (2) 400 HP boilers that operates under CSP No. 0024-04-C. This is a significant modification application for CSP No. 0024-04-C. The following changes were proposed to the permit:

1. Add Unitek ECODIESEL as an allowable fuel for its two (2) 400 HP oil/gas fired boilers.
2. Increase the allowable sulfur content of fuel oil from 15 ppm (0.0015 wt%) to 500 ppm (0.05 wt%).

An application fee of five hundred dollars ($500.00) for the significant modification of a covered source (non-toxic, nonmajor, increase of regulated air pollutants < 40 TPY) was submitted and processed.
Equipment Description:

<table>
<thead>
<tr>
<th>Unit No.</th>
<th>Description</th>
<th>Fuel Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Classified as existing boiler per 40 CFR Part 63, Subpart JJJJJJ, 400 HP Cleaver Brooks steam boiler, Model No. CB-400, Serial No. L-65130, 16.8 MMBtu/hr, Manufactured in 1978.</td>
<td>ULSD/ECODIESEL = 119.5 gal/hr SNG = 16,750 scf/hr</td>
</tr>
<tr>
<td>2</td>
<td>Classified as new boiler per 40 CFR Part 63, Subpart JJJJJJ, 400 HP Superior steam boiler, Model No. 7-5-2000-S150-PF-GA2, Serial No. 17003, 16.8 MMBtu/hr, Manufactured in 2011. Maximum design capacity = 13,800 lb/hr of steam.</td>
<td>ULSD/ECODIESEL = 119.6 gal/hr SNG = 16,409 scf/hr</td>
</tr>
</tbody>
</table>

Air Pollution Controls:

1. Sulfur dioxide (SO₂) – ultra-low sulfur diesel (ULSD), Unitek ECODIESEL, or synthetic natural gas (SNG).
2. Nitrogen oxides (NOₓ) – burner design, maintenance and proper operating conditions.
3. Particulate matter (PM) – low ash(metal) content of low sulfur fuel oil and SNG. Also proper combustion to assure maximum oxidation of fuels to carbon dioxide (CO₂) and water (H₂O).
4. Carbon monoxide (CO) – proper combustion to assure maximum oxidation of carbon to CO₂.
5. Volatile organic compounds (VOC) – proper combustion to assure maximum oxidation of carbon and hydrogen to CO₂ and H₂O.

Applicable Requirements:

Hawaii Administrative Rules (HAR)

Title 11, Chapter 59 - Ambient Air Quality Standards
Title 11, Chapter 60.1 - Air Pollution Control
   Subchapter 1 - General Requirements
   Subchapter 2 - General Prohibitions
      HAR 11-60.1-31 Applicability
      HAR 11-60.1-32 Visible Emissions
      HAR 11-60.1-38 Sulfur Oxides from Fuel Combustion
Subchapter 5 – Covered Sources
Subchapter 6 - Fees for Covered Sources, Noncovered Sources & Agricultural Burning
   HAR 11-60.1-111 Definitions
   HAR 11-60.1-112 General Fee Provisions for Covered Sources
   HAR 11-60.1-113 Application Fees for Covered Sources
   HAR 11-60.1-114 Annual Fees for Covered Sources
   HAR 11-60.1-115 Basis of Annual Fees for Covered Sources
Subchapter 8 – Standards of Performance for Stationary Sources
   HAR 11-60.1-161 New Source Performance Standards
Subchapter 9 – Hazardous Air Pollutant Sources
   HAR 11-60.1-174 Maximum Achievable Control Technology (MACT) Emission Standards
Federal Requirements
40 Code of Federal Regulations (CFR) Part 60, Standards of Performance for New Stationary Sources (NSPS), Subpart Dc – Standards of Performance for Small Industrial – Commercial – Institutional Steam Generating Units – Applicable to the 400 HP Superior boiler, but not the 400 HP Cleaver Brooks boiler, because it was manufactured before the June 9, 1989, trigger date for Subpart Dc.

40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants for Source Categories, Subpart JJJJJJ, National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers – Applicable to the 400 HP Superior boiler and 400 HP Cleaver Brooks boiler. The 400 HP Superior boiler is classified as a new boiler, and the 400 HP Cleaver Brooks boiler is classified as an existing boiler, based on the dates of construction.

40 CFR §63.11210(e) - For new or reconstructed oil-fired boilers that commenced construction or reconstruction on or before September 14, 2016, that combust only oil that contains no more than 0.50 weight percent sulfur or a mixture of 0.50 weight percent sulfur oil with other fuels not subject to a PM emission limit under this subpart and that do not use a post-combustion technology (except a wet scrubber) to reduce PM or SO₂ emissions, you are not subject to the PM emission limit in Table 1 of this subpart until September 14, 2019, providing you monitor and record on a monthly basis the type of fuel combusted. If you intend to burn a new type of fuel or fuel mixture that does not meet the requirements of this paragraph, you must conduct a performance test within sixty (60) days of burning the new fuel. On or after September 14, 2019, you are subject to the PM emission limit in Table 1 of this subpart and you must demonstrate compliance with the PM emission limit in Table 1 no later than March 12, 2020.

40 CFR §63.11210(f) – For new or reconstructed boilers that combust only ultra-low-sulfur liquid fuel as defined in §63.11237, you are not subject to the PM emission limit in Table 1 of this subpart providing you monitor and record on a monthly basis the type of fuel combusted. If you intend to burn a fuel other than ultra-low-sulfur liquid fuel or gaseous fuels as defined in §63.11237, you must conduct a performance test within sixty (60) days of burning the new fuel.

40 CFR §63.11214(c) – If you own or operate an existing affected boiler with a heat input capacity of ten (10) million BTU per hour or greater, you must submit a signed certification in the Notification of Compliance Status report that an energy assessment of the boiler and its energy use systems was completed according to Table 2 to this subpart and that the assessment is an accurate depiction of your facility at the time of the assessment or that the maximum number of on-site technical hours specified in the definition of energy assessment applicable to the facility has been expended. The Cleaver Brooks boiler requires an energy assessment.

Non-Applicable Requirements:

Hawaii Administrative Rules (HAR)
Title 11 Chapter 60.1 - Air Pollution Control
   Subchapter 7 – Prevention of Significant Deterioration Review
   Subchapter 9 – Hazardous Air Pollutant Sources
       HAR 11-60.1-180 – National Emission Standards for Hazardous Air Pollutants
Federal Requirements
40 CFR Part 52.21 - Prevention of Significant Deterioration of Air Quality

Prevention of Significant Deterioration (PSD):

This source is not a major stationary source nor are there modifications proposed that by itself constitute a major stationary source that is subject to PSD review. Therefore, a PSD review is not applicable.

Best Available Control Technology (BACT):

A BACT analysis is required for new covered sources and significant modifications to covered sources that have the potential to emit or increase emissions above significant levels as defined in HAR §11-60.1-1. There are no increases above significant levels for the proposed modification to this existing source based on the potential to emit. Therefore, a BACT analysis is not applicable.

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Potential Emissions (tpy)</th>
<th>Significant Level (tpy)</th>
<th>Significant?</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOx</td>
<td>6.70</td>
<td>40</td>
<td>No</td>
</tr>
<tr>
<td>SOx</td>
<td>2.38</td>
<td>40</td>
<td>No</td>
</tr>
<tr>
<td>CO</td>
<td>1.83</td>
<td>100</td>
<td>No</td>
</tr>
<tr>
<td>PM/PM10/PM2.5</td>
<td>0.67/0.53/0.30</td>
<td>25/15/10</td>
<td>No</td>
</tr>
<tr>
<td>VOC</td>
<td>1.76</td>
<td>40</td>
<td>No</td>
</tr>
</tbody>
</table>

Compliance Assurance Monitoring (CAM):

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 greater than the major source level (greater than one hundred (100) tons per year (tpy)); and
5. Not otherwise be exempt from CAM.

CAM is not applicable to the facility since Item 1 does not apply.
Air Emissions Reporting Requirements (AERR):

40 CFR Part 51, Subpart A – Air Emissions Reporting Requirements, is based on the emissions of criteria air pollutants from Type B point sources (as defined in 40 CFR Part 51, Subpart A), that emit at the AERR triggering levels as shown in the table below.

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Type B Triggering Levels¹ (tpy)</th>
<th>Pollutant</th>
<th>In-house Total Facility Triggering Levels¹ (tpy)</th>
<th>Potential Emissions (tpy)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO₂</td>
<td>≥ 100</td>
<td>NO₂</td>
<td>≥ 25</td>
<td>6.70</td>
</tr>
<tr>
<td>SO₂</td>
<td>≥ 100</td>
<td>SO₂</td>
<td>≥ 25</td>
<td>2.38</td>
</tr>
<tr>
<td>CO</td>
<td>≥ 1000</td>
<td>CO</td>
<td>≥ 250</td>
<td>1.83</td>
</tr>
<tr>
<td>PM₁₀/PM₂.₅</td>
<td>≥ 100/100</td>
<td>PM₁₀/PM₂.₅</td>
<td>≥ 25/25</td>
<td>0.53/0.30</td>
</tr>
<tr>
<td>VOC</td>
<td>≥ 100</td>
<td>VOC</td>
<td>≥ 25</td>
<td>1.76</td>
</tr>
<tr>
<td>Pb</td>
<td>≥ 0.5 (actual)</td>
<td>Pb</td>
<td>≥ 5</td>
<td>4.22E-04</td>
</tr>
</tbody>
</table>

¹Based on potential emissions

This facility does not emit at the AERR triggering levels. Therefore, AERR is not applicable.

Although AERR for the facility is not triggered, the Clean Air Branch requests annual emissions reporting from those facilities that have facility-wide emissions of a single air pollutant exceeding in-house triggering levels or is a covered source. Annual emissions reporting for the facility will be required for in-house recordkeeping purposes since this is a covered source.

Synthetic Minor:

This source is not a synthetic minor source since individual air pollutant emissions are less than one hundred (100) tpy (major source trigger) if this source was to operate 8,760 hr/yr.

Insignificant Activities:

One (1) 10,000-gallon above ground fuel oil storage tank, since it is less than 40,000 gallons in capacity (HAR §11-60.1-82(f)(1)).

Alternative Operating Scenarios:

None proposed in the application.
Project Emissions:

Emissions for 400 HP Superior Boiler (ECODIESEL)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Factor(^1) (lb/1000 gal)</th>
<th>Fuel Consumption (gal/hr)</th>
<th>Emissions (lb/hr)</th>
<th>Hours of Operation (hrs/yr)</th>
<th>Annual Fuel Consumption(^2) (gal/yr)</th>
<th>Annual Emissions (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO(_x)</td>
<td>16.80</td>
<td>119.6</td>
<td>2.009</td>
<td>5.604</td>
<td>670,000</td>
<td>5.63</td>
</tr>
<tr>
<td>CO</td>
<td>5.46</td>
<td>119.6</td>
<td>0.653</td>
<td>5.604</td>
<td>670,000</td>
<td>1.83</td>
</tr>
<tr>
<td>SO(_2)</td>
<td>7.1 142S, (S=0.05)</td>
<td>119.6</td>
<td>0.849</td>
<td>5.604</td>
<td>670,000</td>
<td>2.38</td>
</tr>
<tr>
<td>VOC</td>
<td>5.25</td>
<td>119.6</td>
<td>0.628</td>
<td>5.604</td>
<td>670,000</td>
<td>1.76</td>
</tr>
<tr>
<td>PM(_{10})</td>
<td>1.58</td>
<td>119.6</td>
<td>0.189</td>
<td>5.604</td>
<td>670,000</td>
<td>0.53</td>
</tr>
<tr>
<td>PM(_{2.5})</td>
<td>0.90</td>
<td>119.6</td>
<td>0.108</td>
<td>5.604</td>
<td>670,000</td>
<td>0.30</td>
</tr>
<tr>
<td>PM</td>
<td>2.00</td>
<td>119.6</td>
<td>0.239</td>
<td>5.604</td>
<td>670,000</td>
<td>0.67</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>6.10E-02</td>
<td>119.6</td>
<td>7.29E-03</td>
<td>5.604</td>
<td>670,000</td>
<td>2.04E-02</td>
</tr>
<tr>
<td>Arsenic</td>
<td>5.60E-04</td>
<td>119.6</td>
<td>6.69E-05</td>
<td>5.604</td>
<td>670,000</td>
<td>1.88E-04</td>
</tr>
<tr>
<td>Beryllium</td>
<td>4.20E-04</td>
<td>119.6</td>
<td>5.02E-05</td>
<td>5.604</td>
<td>670,000</td>
<td>1.41E-04</td>
</tr>
<tr>
<td>Cadmium</td>
<td>4.20E-04</td>
<td>119.6</td>
<td>5.02E-05</td>
<td>5.604</td>
<td>670,000</td>
<td>1.41E-04</td>
</tr>
<tr>
<td>Chromium</td>
<td>4.20E-04</td>
<td>119.6</td>
<td>5.02E-05</td>
<td>5.604</td>
<td>670,000</td>
<td>1.41E-04</td>
</tr>
<tr>
<td>Copper</td>
<td>8.40E-04</td>
<td>119.6</td>
<td>1.00E-04</td>
<td>5.604</td>
<td>670,000</td>
<td>2.81E-04</td>
</tr>
<tr>
<td>Mercury</td>
<td>4.20E-04</td>
<td>119.6</td>
<td>5.02E-05</td>
<td>5.604</td>
<td>670,000</td>
<td>1.41E-04</td>
</tr>
<tr>
<td>Manganese</td>
<td>8.40E-04</td>
<td>119.6</td>
<td>1.00E-04</td>
<td>5.604</td>
<td>670,000</td>
<td>2.81E-04</td>
</tr>
<tr>
<td>Nickel</td>
<td>4.20E-04</td>
<td>119.6</td>
<td>5.02E-05</td>
<td>5.604</td>
<td>670,000</td>
<td>1.41E-04</td>
</tr>
<tr>
<td>Lead</td>
<td>1.26E-03</td>
<td>119.6</td>
<td>1.51E-04</td>
<td>5.604</td>
<td>670,000</td>
<td>4.22E-04</td>
</tr>
<tr>
<td>Selenium</td>
<td>2.10E-03</td>
<td>119.6</td>
<td>2.51E-01</td>
<td>5.604</td>
<td>670,000</td>
<td>7.04E-01</td>
</tr>
<tr>
<td>Zinc</td>
<td>5.60E-04</td>
<td>119.6</td>
<td>6.69E-05</td>
<td>5.604</td>
<td>670,000</td>
<td>1.88E-04</td>
</tr>
<tr>
<td>HAPS</td>
<td>119.6</td>
<td>5.604</td>
<td>5.604</td>
<td>670,000</td>
<td>1.88E-04</td>
<td>0.73</td>
</tr>
</tbody>
</table>

\(^1\)Emission factors from manufacturer’s specs (PM, CO, NO\(_x\), VOC); EPA AP-42 Tables 1.3-1, 1.3-8, 1.3-10, Appendix A (Distillate Oil = 140,000 Btu/gal), Appendix B.2.2

\(^2\)Based on a total combined fuel consumption limit of 670,000 gallons/yr for the 400 HP Superior boiler and 400 HP Cleaver Brooks boiler.
Emissions for 400 HP Cleaver Brooks Boiler (ECODIESEL)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Factor¹ (lb/1000 gal)</th>
<th>Fuel Consumption (gal/hr)</th>
<th>Emissions (lb/hr)</th>
<th>Hours of Operation (hrs/yr)</th>
<th>Annual Fuel Consumption² (gal/yr)</th>
<th>Annual Emissions (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOₓ</td>
<td>20</td>
<td>119.5</td>
<td>2.390</td>
<td>5,604</td>
<td>670,000</td>
<td>6.70</td>
</tr>
<tr>
<td>CO</td>
<td>5</td>
<td>119.5</td>
<td>0.598</td>
<td>5,604</td>
<td>670,000</td>
<td>1.68</td>
</tr>
<tr>
<td>SO₂</td>
<td>7.1</td>
<td>142S, (S=0.05)</td>
<td>0.848</td>
<td>5,604</td>
<td>670,000</td>
<td>2.38</td>
</tr>
<tr>
<td>VOC</td>
<td>0.34</td>
<td>119.5</td>
<td>0.041</td>
<td>5,604</td>
<td>670,000</td>
<td>0.11</td>
</tr>
<tr>
<td>PM₁₀</td>
<td>1.08</td>
<td>119.5</td>
<td>0.129</td>
<td>5,604</td>
<td>670,000</td>
<td>0.36</td>
</tr>
<tr>
<td>PM₂.₅</td>
<td>0.83</td>
<td>119.5</td>
<td>0.099</td>
<td>5,604</td>
<td>670,000</td>
<td>0.28</td>
</tr>
<tr>
<td>PM</td>
<td>2.00</td>
<td>119.5</td>
<td>0.239</td>
<td>5,604</td>
<td>670,000</td>
<td>0.67</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>6.10E-02</td>
<td>119.5</td>
<td>7.29E-03</td>
<td>5,604</td>
<td>670,000</td>
<td>2.04E-02</td>
</tr>
<tr>
<td>Arsenic</td>
<td>5.60E-04</td>
<td>119.5</td>
<td>6.69E-05</td>
<td>5,604</td>
<td>670,000</td>
<td>1.88E-04</td>
</tr>
<tr>
<td>Beryllium</td>
<td>4.20E-04</td>
<td>119.5</td>
<td>5.02E-05</td>
<td>5,604</td>
<td>670,000</td>
<td>1.41E-04</td>
</tr>
<tr>
<td>Cadmium</td>
<td>4.20E-04</td>
<td>119.5</td>
<td>5.02E-05</td>
<td>5,604</td>
<td>670,000</td>
<td>1.41E-04</td>
</tr>
<tr>
<td>Chromium</td>
<td>4.20E-04</td>
<td>119.5</td>
<td>5.02E-05</td>
<td>5,604</td>
<td>670,000</td>
<td>1.41E-04</td>
</tr>
<tr>
<td>Copper</td>
<td>8.40E-04</td>
<td>119.5</td>
<td>1.00E-04</td>
<td>5,604</td>
<td>670,000</td>
<td>2.81E-04</td>
</tr>
<tr>
<td>Mercury</td>
<td>4.20E-04</td>
<td>119.5</td>
<td>5.02E-05</td>
<td>5,604</td>
<td>670,000</td>
<td>1.41E-04</td>
</tr>
<tr>
<td>Manganese</td>
<td>8.40E-04</td>
<td>119.5</td>
<td>1.00E-04</td>
<td>5,604</td>
<td>670,000</td>
<td>2.81E-04</td>
</tr>
<tr>
<td>Nickel</td>
<td>4.20E-04</td>
<td>119.5</td>
<td>5.02E-05</td>
<td>5,604</td>
<td>670,000</td>
<td>1.41E-04</td>
</tr>
<tr>
<td>Lead</td>
<td>1.26E-03</td>
<td>119.5</td>
<td>1.51E-04</td>
<td>5,604</td>
<td>670,000</td>
<td>4.22E-04</td>
</tr>
<tr>
<td>Selenium</td>
<td>2.10E-03</td>
<td>119.5</td>
<td>2.51E-01</td>
<td>5,604</td>
<td>670,000</td>
<td>7.04E-01</td>
</tr>
<tr>
<td>Zinc</td>
<td>5.60E-04</td>
<td>119.5</td>
<td>6.69E-05</td>
<td>5,604</td>
<td>670,000</td>
<td>1.88E-04</td>
</tr>
<tr>
<td>HAPS</td>
<td>119.5</td>
<td>5,604</td>
<td>0.73</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹Emission factors from EPA AP-42 Tables 1.3-1, 1.3-7, 1.3-8, 1.3-10, and Appendix A (Distillate Oil = 140,000 Btu/gal)
²Based on a total combined fuel consumption limit of 670,000 gallons/yr for the 400 HP Superior boiler and 400 HP Cleaver Brooks boiler.

Greenhouse Gas (GHG) Emissions

<table>
<thead>
<tr>
<th>GHG</th>
<th>Emission Factor¹ Oil (lb/1000 gal)</th>
<th>Fuel Consumption (gal/hr)</th>
<th>GHG Emissions (lb/hr)</th>
<th>GHG Emissions @ 5004 hrs/yr (ton/yr)</th>
<th>GWP</th>
<th>CO₂e (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO₂</td>
<td>22.300</td>
<td>119.6</td>
<td>2.667</td>
<td>7,473</td>
<td>1</td>
<td>7,473</td>
</tr>
<tr>
<td>N₂O</td>
<td>0.26</td>
<td>119.6</td>
<td>0.031</td>
<td>0.087</td>
<td>298</td>
<td>26</td>
</tr>
<tr>
<td>CH₄</td>
<td>0.216</td>
<td>119.6</td>
<td>0.026</td>
<td>0.073</td>
<td>25</td>
<td>1.8</td>
</tr>
<tr>
<td>Total for one boiler</td>
<td></td>
<td></td>
<td>11,677</td>
<td></td>
<td></td>
<td>7,501</td>
</tr>
<tr>
<td>Total for two boilers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>15,002</td>
</tr>
</tbody>
</table>

¹Emission factors from EPA AP-42 Tables 1.3-3, 1.3-8, and 1.3-12.

Ambient Air Quality Assessment (AAQA):

A modeling analysis was performed by the applicant for the two (2) 400 HP boilers operating simultaneously using EPA’s AERMOD model (ver. 21112), AERMET (ver. 21112), and AERMAP (ver. 18081) with USGS NED data. The BPIP-PRIME model was used to generate appropriate building dimensions for input into AERMOD. Five (5) years (2015-2019) of surface meteorological data from Honolulu’s Daniel K. Inouye Airport and concurrent upper air data from Lihue Airport were used for all analyses. The urban mode option was used based on population density. A receptor grid with thirty (30) meter spacing extending 500 meters out from the boilers was used.
For the one (1) hour NO$_2$, the ozone limiting method (OLM) was used with five (5) years of ozone (O$_3$) monitoring data (2015-2019). The one (1) hour NO$_2$ background concentration is based on a three (3) year average of the monitored 98$^{th}$ percentile design value by hour-of-day from DOH’s Kapolei Air Quality Monitoring Station (2017-2019), in accordance with EPA’s guidance memorandum of March 1, 2011. This guidance states: As a “first tier” for the one (1) hour NO$_2$ National Ambient Air Quality Standards (NAAQS) analysis, the monitored NO$_2$ design value (98$^{th}$ percentile) of the annual distribution of daily maximum one (1) hour values averaged across the most recent three (3) years of monitored data should added to the modeled NO$_2$ design value (98$^{th}$ percentile). A “second tier” based on the multiyear averages of the 98$^{th}$ percentile background concentrations by hour-of-day and/or season may also be used.

The results were combined with DOH monitoring data as background data to produce final estimates for comparison with the ambient air quality standards. There were no exceedances of the State or National Ambient Air Quality Standards.

**Emission Rates and Stack Parameters**

<table>
<thead>
<tr>
<th>Equipment</th>
<th>NO$_X$</th>
<th>SO$_2$</th>
<th>PM$_{10}$</th>
<th>PM$_{2.5}$</th>
<th>CO</th>
<th>Height (m)</th>
<th>Temp (K)</th>
<th>Velocity (m/s)</th>
<th>Diameter (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>400 HP Superior Boiler</td>
<td>2.009 lb/hr</td>
<td>0.849 lb/hr</td>
<td>0.189 lb/hr</td>
<td>0.108 lb/hr</td>
<td>0.653 lb/hr</td>
<td>16.76</td>
<td>322.0</td>
<td>5.95</td>
<td>0.61</td>
</tr>
<tr>
<td></td>
<td>0.2531 g/s</td>
<td>0.1069 g/s</td>
<td>0.0238 g/s</td>
<td>0.0136 g/s</td>
<td>0.0823 g/s</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>400 HP Cleaver Brooks Boiler</td>
<td>2.39 lb/hr</td>
<td>0.848 lb/hr</td>
<td>0.129 lb/hr</td>
<td>0.099 lb/hr</td>
<td>0.598 lb/hr</td>
<td>19.51</td>
<td>506.0</td>
<td>9.44</td>
<td>0.61</td>
</tr>
<tr>
<td></td>
<td>0.3011 g/s</td>
<td>0.1069 g/s</td>
<td>0.0162 g/s</td>
<td>0.0125 g/s</td>
<td>0.0753 g/s</td>
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<td></td>
</tr>
</tbody>
</table>

Note: SO$_2$ emission rates are based on ECODIESEL with a maximum sulfur content of 0.05% by weight.
Comparison of Modeled Impacts with NAAQS/SAAQS

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Averaging Period</th>
<th>Model Result (µg/m³)</th>
<th>Background Concentration &amp; Total Concentration (µg/m³)</th>
<th>AAQS (µg/m³)</th>
<th>Percent of AAQS (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO₂</td>
<td>1-hr</td>
<td>66.5¹</td>
<td>11.3; 77.8; 196; 39.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3-hr</td>
<td>68.3²</td>
<td>23; 91.3; 1,300; 7.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>24-hr</td>
<td>33.2³</td>
<td>6; 39.2; 365; 10.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Annual</td>
<td>3.7³</td>
<td>1; 4.7; 80; 5.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO₂</td>
<td>1-hr</td>
<td>155.1⁴</td>
<td>n/a²; 155.1; 188; 82.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Annual</td>
<td>39.8⁴</td>
<td>8; 47.8; 70; 68.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PM₁₀</td>
<td>24-hr</td>
<td>6.5⁵</td>
<td>35; 41.5; 150; 27.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Annual</td>
<td>0.75³</td>
<td>13; 13.75; 50; 27.6</td>
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<td></td>
</tr>
<tr>
<td>PM₂.⁵</td>
<td>24-hr</td>
<td>1.8⁶</td>
<td>8; 9.8; 35; 28.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Annual</td>
<td>0.42⁷</td>
<td>3.3; 3.72; 12; 31.0</td>
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<tr>
<td>CO</td>
<td>1-hr</td>
<td>62.7⁸</td>
<td>1,647; 1,709.7; 10,000; 17.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>8-hr</td>
<td>35.8⁹</td>
<td>1,081; 1,116.8; 5,000; 22.3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹The listed modeled concentration is the 99th percentile (4th rank) of the 1-hr daily maximum concentrations, averaged over 5 years (2015-2019).
²The listed 3-hour and 24-hour SO₂, 24-hour PM₁₀, and 1-hour and 8-hour CO are the maximum 1st high concentrations, over 5 years (2015-2019).
³The listed modeled annual concentrations are the maximum 1st high concentrations, over 5 years (2015-2019).
⁴The listed modeled concentrations are the 98th percentile (8th rank) of the 1-hour and 8-hour annual concentrations, averaged over 5 years (2015-2019).
⁵The listed modeled concentration is the 98th percentile (8th rank) of the 1-hour maximum concentrations, averaged over 5 years (2015-2019).
⁶The background concentrations used 2017-2019 data from the following stations: Honolulu (1-hr SO₂, 3-hr SO₂, 24-hr SO₂, annual SO₂, 24-hr PM₁₀, annual PM₁₀, 24-hr PM₂.⁵, annual PM₂.⁵, 1-hr CO, 8-hr CO); and Kapolei (annual NO₂). 3-yr average used for 1-hr SO₂, 24-hr PM₂.⁵, and annual PM₂.⁵; 3-yr maximums used for 3-hr SO₂, 24-hr SO₂, annual SO₂, annual NO₂, 24-hr PM₁₀, annual PM₁₀, 1-hr CO, and 8-hr CO.
⁷The AAQS shown represents the NAAQS or the most restrictive standard between the SAAQS and NAAQS.

Significant Permit Conditions:

1. The boilers shall be fired on either ultra-low sulfur diesel (ULSD) fuel with a sulfur content less than or equal to 15 ppmv, Unitek ECODIESEL with a sulfur content less than or equal to 500 ppmv, or synthetic natural gas (SNG). The fuel oil sulfur limits shall apply at all times, including periods of startup, shutdown, and malfunction.

   Reason: Proposed by applicant.

2. The total combined ULSD or ECODIESEL usage for the two (2) boilers shall not exceed 670,000 gallons in any rolling twelve (12) month period.

   Reason: The applicant proposed adding ECODIESEL as a fuel to the existing permit condition: The total combined ULSD usage for the two (2) boilers shall not exceed 670,000 gallons in any rolling twelve (12) month period.
3. The permittee shall not discharge or cause the discharge into the atmosphere from the 400 HP Superior boiler in excess of the following emission rate while fired on ECODIESEL, except during periods of startup and shutdown:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Limit (3-hr Avg.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM (filterable)</td>
<td>0.03 lb/MBtu</td>
</tr>
</tbody>
</table>

Reason: Per 40 CFR §63.11210(f) – For new or reconstructed boilers that combust only ultra-low-sulfur liquid fuel as defined in §63.11237, you are not subject to the PM emission limit in Table 1 of this subpart providing you monitor and record on a monthly basis the type of fuel combusted. If you intend to burn a fuel other than ultra-low-sulfur liquid fuel or gaseous fuels as defined in §63.11237, you must conduct a performance test within sixty (60) days of burning the new fuel. Applicant is proposing to burn Unitek ECODIESEL as a new fuel, so a performance test is required. Only the 400 HP Superior boiler is affected, since it is classified as a new boiler. The emission limit for new oil-fired boilers is required by 40 CFR §63.11201 and shown in Table 1 of Subpart JJJJJJ.

4. Annual Compliance Certification Report

Beginning in 2023 and every year thereafter, the permittee shall prepare by March 1, the attached Annual Compliance Certification Report Form: 400 HP Superior Boiler, for the previous calendar year for the 400 HP Superior boiler in accordance with 40 CFR §63.11225(b). The Annual Compliance Certification Report Form: 400 HP Superior Boiler shall be submitted, upon request, to the Department and U.S. EPA, Region 9. The Annual Compliance Certification Report Form: 400 HP Superior Boiler shall be submitted to the Department and U.S. EPA, Region 9, by March 15 of each year, if there are deviations from the applicable requirements of 40 CFR Part 63, Subpart JJJJJ; include a description of deviations, the time periods during which the deviations occurred, and the corrective actions taken.

Reason: Annual compliance reporting is required by 40 CFR §63.11225(b).

5. Biennial Compliance Certification Report

Beginning in 2020 and every biennial year thereafter, the permittee shall prepare by March 1, the attached Biennial Compliance Certification Report Form: 400 HP Cleaver Brooks Boiler, for the previous calendar year for the 400 HP Cleaver Brooks boiler in accordance with 40 CFR §63.11225(b). The Biennial Compliance Certification Report Form: 400 HP Cleaver Brooks Boiler shall be submitted, upon request, to the Department and U.S. EPA, Region 9.

Reason: Biennial compliance reporting is required by 40 CFR §63.11225(b).
6. Boiler Performance Testing

Within **sixty (60) days** of firing ECODIESEL in the 400 HP Superior boiler, and **triennially** thereafter, the permittee shall conduct, or cause to be conducted, performance tests on the 400 HP Superior boiler to determine the emission rates of PM for the purpose of determining compliance with the emission limit provided for under Attachment II, Special Condition No. C.4. Triennial performance tests must be completed no more than thirty-seven (37) months after the previous performance test. The permittee shall not conduct performance tests during periods of startup, shutdown, or malfunction. The performance tests shall be conducted at the representative operating load conditions.

When demonstrating initial compliance with the PM (filterable) emission limit, if the boiler's performance test results show that the PM (filterable) emissions are equal to or less than half of the PM (filterable) emission limit, performance tests for PM (filterable) may be conducted every fifth year, but each performance test must be conducted no more than sixty-one (61) months after the previous performance test. If the performance test results show that the PM (filterable) emissions are greater than half of the PM (filterable) emission limit, subsequent performance tests must be conducted on a triennial basis.

Reason: Performance testing is required per 40 CFR §63.11210(f), §63.11211, §63.11212, and §63.11220 since there is a PM emission limit.

**Conclusion and Recommendation:**

Recommend issuing the significant modification to CSP No. 0024-04-C, subject to the significant permit conditions shown above, a thirty (30) day public comment period, and forty-five (45) day EPA review period. The facility would remain in compliance with the State and Federal ambient air quality standards. This permit shall supersede CSP No. 0024-04-C issued on March 27, 2019, in its entirety.

Reviewer: Darin Lum
Date: 5/2022
Application
and
Supporting Information
November 8, 2021

Ms. Marianne Rossio, P.E.
Manager, Clean Air Branch
Department of Health
Hale Ola Building, Room 130
2827 Waimano Home Road
Pearl City, Hawaii 96782

Dear Ms. Rossio:

Subject: Application for a Significant Modification to a Covered Source
CSP 0024-04-C
ALSCO-American Linen Division

We are submitting herewith the subject application for your review and action. A check in the amount of $500 is also enclosed for the application fee.

If you or your staff have any questions concerning this submittal, please contact me at 942-9096.

Sincerely,

James W. Morrow

James W. Morrow, DrPH

JWM: jm
211108

Enclosures

cf: ALSCO
Unitek Solvent Services, Inc.
APPLICATION FOR A SIGNIFICANT MODIFICATION TO A COVERED SOURCE

Covered Source Permit (CSP) No. 0024-04-C

SUBMITTED TO:

State of Hawaii
Department of Health
Clean Air Branch

SUBMITTED BY:

ALSCO - American Linen Division
2771 Wai Wai Loop
Honolulu, HI 96819

November 2021
<table>
<thead>
<tr>
<th>TAB</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Form S-1 - Standard Permit Application</td>
</tr>
<tr>
<td>2</td>
<td>Form S-6 - Application for a Significant Modification to a Covered Source</td>
</tr>
<tr>
<td>3</td>
<td>Form C-1 - Compliance Plan</td>
</tr>
<tr>
<td>4</td>
<td>Form C-2 - Compliance Certification</td>
</tr>
<tr>
<td>5</td>
<td>Appendix A - Calculations</td>
</tr>
<tr>
<td>6</td>
<td>Appendix B - Manufacturer’s Literature</td>
</tr>
</tbody>
</table>
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) 566-4200

1. Company Name: ALSCO - American Linen Division

2. Facility Name (if different from the Company): ____________________________________________________________________________

3. Mailing Address: 2771 Wai Wai Loop
City: Honolulu State: HI Zip Code: 96819
Phone Number: (808) 837-7503

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: Brian Arkle
Title: General Manager Phone: (808) 834-7503
Mailing Address: 2771 Wai Wai Loop
City: Honolulu State: HI Zip Code: 96819

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: CSP 0024-04-C

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: 7211

(7/06) Form S-1
11. Proposed Equipment/Plant Location (e.g. street address): 2771 Wai Wai Loop
   City: Honolulu  
   State: HI  
   Zip Code: 96819
   UTM Coordinates (meters): East: 613,985  
   North: 2,359,458
   UTM Zone: 4  
   UTM Horizontal Datum: ☑ NAD-83

12. General Nature of Business: laundry services

13. Date of Planned Commencement of Construction or Modification: upon permit issuance

14. Is any of the equipment to be leased to another individual or entity?  No

15. Type of Organization: ☑ Corporation
   ☐ Individual Owner
   ☐ Partnership
   ☐ Government Agency (Government Facility Code:)
   ☐ Other: 

Any applicant for a permit who fails to submit any relevant facts or who has submitted incorrect information in any permit application shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information. In addition, an applicant shall provide additional information as necessary to address any requirements that become applicable to the source after the date it filed a complete application, but prior to the issuance of the noncovered source permit or release of a draft covered source permit. (HAR §11-60.1-64 & 11-60.1-84)

RESPONSIBLE OFFICIAL (as defined in HAR §11-60.1-1)

Name (Last): Arkle  
(First): Brian  
(MI): P

Title: General Manager  
Phone: (808) 834-7503

Mailing Address: 2771 Wai Wai Loop

City: Honolulu  
State: HI  
Zip Code: 96819

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 (HAR), Title 11, Chapter 60.1, Air Pollution Control, and any permit issued thereof.

NAME (Print/Type): Brian P. Arkle  
(Signature): 
Date: 11/2/2

FOR AGENCY USE ONLY:

File/Application No.: 
Island: 
Date Received: 

(7/04) Form S-1 Page 2 of 4
1. **INTRODUCTION**

ALSCO-American Linen Division (the "Applicant") is proposing to add Unitek ECODIESELS as an allowable fuel for its two (2) 400 HP oil/gas-fired boilers. It is also proposing to increase the allowable sulfur content of fuel oil from 15 ppmv to 500 ppmv.

As part of the regulatory requirements to install and operate this plant, the Applicant is submitting herein an Application for a Significant Modification to a Covered Source 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-6, C-1 and C-2.

2. **APPLICABILITY**

The first step in the Chapter 11-60.1 permitting process is to determine which provisions of the rules apply and which type of permit, if any, is required for 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.

In this instance, the proposed increase in the sulfur content of fuel oil will result in an increase in emissions; thus, the proposed changes must be processed as a Significant Modification.

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.** The process flow is self-evident as fuel oil (or SNG) is fired to heat water and produce steam for the laundry processes.

   c. **Description of Emissions Points.** The only emission points are the exhaust stacks on the existing 400 HP boilers.

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

   e. **Facility Location Map.** See Figure S-1.1.
### 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.

<table>
<thead>
<tr>
<th>Stack No.</th>
<th>Unit No.</th>
<th>Equipment Name/Description and BICC Number</th>
<th>Equipment Date</th>
<th>Regulated/ Hazardous Air Pollutant &amp; CAS#</th>
<th>#/hr</th>
<th>Tons/yr</th>
<th>AIR POLLUTANT EMISSION RATE</th>
<th>UTM Zone: 4</th>
<th>Horizontal Datum: NAD-83</th>
<th>Stack Source Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-2</td>
<td>U-2</td>
<td>16.7 MMBTU/hr oil/gas boiler S-2</td>
<td>Existing</td>
<td>S02</td>
<td>0.85</td>
<td>2.4</td>
<td>East 613,990 North 2,359,456</td>
<td>16.76</td>
<td>U 0.61 5.95 1.74 322 N</td>
<td>Stack Height (m)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>S2</td>
<td></td>
<td>NOx</td>
<td>2.01</td>
<td>5.6</td>
<td>East North</td>
<td></td>
<td></td>
<td>Direction (v,d,h)²</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CO</td>
<td></td>
<td>0.65</td>
<td></td>
<td>1.83</td>
<td>East North</td>
<td></td>
<td></td>
<td>Inside Diameter (m)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM/TSP</td>
<td></td>
<td>0.24</td>
<td></td>
<td>0.67</td>
<td>East North</td>
<td></td>
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<td>Velocity (m/s)</td>
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<td>PM10</td>
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<td>0.19</td>
<td></td>
<td>0.53</td>
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<td>Actual Flow Rate (m³/s)</td>
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<tr>
<td></td>
<td></td>
<td>PM2.5</td>
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<td>0.10</td>
<td></td>
<td>0.27</td>
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<td>Temp (°C)</td>
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<td>TOCVOC</td>
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<td>0.63</td>
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<td>1.76</td>
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<td>Capped? (Y/N)</td>
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<td></td>
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<td>Formaldehyde CAS 50-00-0</td>
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<td>7.29E-03</td>
<td></td>
<td>2.04E-02</td>
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<tr>
<td></td>
<td></td>
<td>As</td>
<td></td>
<td>6.69E-05</td>
<td></td>
<td>1.88E-04</td>
<td>East North</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Be</td>
<td></td>
<td>5.02E-05</td>
<td></td>
<td>1.41E-04</td>
<td>East North</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cd</td>
<td></td>
<td>5.02E-05</td>
<td></td>
<td>1.41E-04</td>
<td>East North</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cr</td>
<td></td>
<td>5.02E-05</td>
<td></td>
<td>1.41E-04</td>
<td>East North</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hg</td>
<td></td>
<td>5.02E-05</td>
<td></td>
<td>1.41E-04</td>
<td>East North</td>
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<td>Nn</td>
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<td></td>
<td>2.81E-04</td>
<td>East North</td>
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<tr>
<td></td>
<td></td>
<td>Ni</td>
<td></td>
<td>5.02E-05</td>
<td></td>
<td>1.41E-04</td>
<td>East North</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(a) Specify UTM Horizontal Datum as Old Hawaiian, NAD-83, or NAD-27
(b) Specify the direction of the stack exhaust as up= upward, d= downward, or h= horizontal

(7/06) Form S-1
### 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.

<table>
<thead>
<tr>
<th>Stack No.</th>
<th>Unit No.</th>
<th>Equipment Name/Description and 810C Number</th>
<th>Equip. Date</th>
<th>Regulated/ Hazardous Air Pollutant Name &amp; CAS#</th>
<th>#/hr</th>
<th>Tons/yr</th>
<th>Coordinates (meters)</th>
<th>Stack Height (m)</th>
<th>Direction (u,d,h)°</th>
<th>Inside Diameter (m)</th>
<th>Velocity (m/s)</th>
<th>Actual Flow Rate (m³/s)</th>
<th>Temp (°K)</th>
<th>Capped? (Y/N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-2</td>
<td>U-2</td>
<td>Superior 100 MMBTU/hr oil/gas boiler</td>
<td>Existing</td>
<td>Pb</td>
<td>1.51E-04</td>
<td>4.22E-04</td>
<td>East</td>
<td>613.990</td>
<td>16.76</td>
<td>0.61</td>
<td>5.95</td>
<td>1.74</td>
<td>322</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Se</td>
<td>2.51E-01</td>
<td>7.04E-01</td>
<td>North</td>
<td>2,359,456</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(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

(7/06)
<table>
<thead>
<tr>
<th>Stack No.</th>
<th>Unit No.</th>
<th>Equipment Name/Description and SICG Number</th>
<th>Equip. Date</th>
<th>Regulated/Hazardous Air Pollutant Name &amp; CAS#</th>
<th>#/hr</th>
<th>Tons/yr</th>
<th>Coordinates (meters)</th>
<th>UTM Zone</th>
<th>Horizontal Datum: NAD-83</th>
<th>Stack Source Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-1</td>
<td>U-1</td>
<td>16.7 MMBTU/hr oil/gas boiler</td>
<td>Existing</td>
<td>SO2</td>
<td>0.60</td>
<td>2.4</td>
<td>East</td>
<td>613,865</td>
<td>2,359,458</td>
<td>19.31 U</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cleaver Brooks S/N L-66130</td>
<td></td>
<td>NOx</td>
<td>2.39</td>
<td>6.7</td>
<td>North</td>
<td></td>
<td></td>
<td>0.61 9.44 2.75 506 N</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CO</td>
<td>0.60</td>
<td>1.88</td>
<td>North</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>PM/TSP</td>
<td>0.24</td>
<td>0.87</td>
<td>North</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PM10</td>
<td>0.13</td>
<td>0.36</td>
<td>North</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PM2.5</td>
<td>0.10</td>
<td>0.28</td>
<td>North</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TOCVCOC</td>
<td>0.04</td>
<td>0.11</td>
<td>North</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Formic acid (CAS 50-00-0)</td>
<td>7.29E-03</td>
<td>2.04E-02</td>
<td>East</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>As</td>
<td>6.69E-05</td>
<td>1.89E-04</td>
<td>North</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Be</td>
<td>5.02E-05</td>
<td>1.41E-04</td>
<td>East</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Cd</td>
<td>5.02E-05</td>
<td>1.41E-04</td>
<td>East</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Cr</td>
<td>5.02E-05</td>
<td>1.41E-04</td>
<td>East</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hg</td>
<td>5.02E-05</td>
<td>1.41E-04</td>
<td>East</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Mn</td>
<td>1.00E-04</td>
<td>2.81E-04</td>
<td>East</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ni</td>
<td>5.02E-05</td>
<td>1.41E-04</td>
<td>East</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(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
## Table S-1.1

**EMISSIONS UNITS TABLE**

<table>
<thead>
<tr>
<th>Stack No.</th>
<th>Unit No.</th>
<th>Equipment Name/Description and SICC Number</th>
<th>Equip. Date</th>
<th>Regulated/ Hazardous Air Pollutant Name &amp; CAS#</th>
<th>#/hr</th>
<th>Tons/yr</th>
<th>Coordinates (meters)</th>
<th>UTM Zone: 5 Horizontal Datum: NAD-83</th>
<th>Stack Source Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-1</td>
<td>U-1</td>
<td>16.7 MMBTU/hr oil gas boiler&lt;br&gt;Cleaver Brooks S/N 1-96133</td>
<td>Existing</td>
<td>Pb</td>
<td>1.5E-04</td>
<td>4.22E-04</td>
<td>East</td>
<td>613,985</td>
<td>19.51</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>North</td>
<td>2,369,458</td>
<td></td>
</tr>
</tbody>
</table>

(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

(7/06)
I. In accordance with Chapter 11-60.1, §11-60.1-104, the following information is provided:

A. Equipment Specifications: Table S-6.1 lists specifications for the proposed new equipment. Manufacturer's literature may be found in Appendix B.

**TABLE S-6.1**

**EQUIPMENT SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Superior Boiler</th>
<th>Cleaver Brooks Boiler</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum design capacity</td>
<td>16.7 MMBTU/hr</td>
<td>16.7 MMBTU/hr</td>
</tr>
<tr>
<td>Fuel type</td>
<td>SNG/DF2</td>
<td>SNG/DF2</td>
</tr>
<tr>
<td>Fuel use</td>
<td>120 gal/hr</td>
<td>120 gal/hr</td>
</tr>
<tr>
<td>Production capacity (steam)</td>
<td>13,800 lb/hr</td>
<td>13,800 lb/hr</td>
</tr>
<tr>
<td>Production rates (steam)</td>
<td>13,800 lb/hr</td>
<td>13,800 lb/hr</td>
</tr>
<tr>
<td>Raw materials</td>
<td>fuel oil, SNG, water</td>
<td>fuel oil, SNG, water</td>
</tr>
</tbody>
</table>

B. Process Description, Air Pollution Control and Insignificant Sources.

1. **Process Description.** Fuel oil or synthetic natural gas (SNG) is fired to heat water and produce steam for the laundry process.

2. **Air Pollution Control.** SO₂ control is inherent in the low sulfur content of the fuel oil and SNG fired.

3. **Insignificant Activities.** No new insignificant activities are proposed.

C. Operating Schedule. Operating hours vary depending on product demand. Typical operations are 8 hr/da, 5 da/wk, 52 wk/yr.
D. **Applicable Requirements.** No change from previous submittals as listed in Forms C-1 and C-2.

E. **Operational Limitations/Work Practices.**
   
   (1) Existing 670,000 gal/yr operating limit.
   
   (2) **0.05% (wt) sulfur limit in fuel oil is proposed.**

F. **Modification Schedule.** Upon application approval and permit issuance.

G. **Emissions Trading.** N/A

H. **Air Quality Impact Assessment.** N/A

A modeling analysis was performed for the proposed replacement boiler using EPA's AERMOD model (ver. 21112), AERMET (ver. 21112), and AERMAP (ver. 18081) with USGS NED data. Five (5) years (2015-2019) of surface data (ISHD) from Honolulu's Daniel K. Inouye Airport and upper air data (RAOB) from the Lihue Airport were used for all analyses.

In addition background NO₂ concentrations were based on a 3-year average of the 98th percentile 1-hour monitoring data from Kapolei (2017–2019), in accordance with EPA's guidance memorandum of March 1, 2011 (see Table S-6.1)

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-6.2 and indicate compliance with ambient air quality standards. Digital I/O data files will be provided under separate cover.
<table>
<thead>
<tr>
<th>Hour</th>
<th>98th Percentile 1-Hour NO$_2$ 2017 - 2019 Average (ppb)</th>
<th>(ug/m$^3$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>16.5</td>
<td>31.1</td>
</tr>
<tr>
<td>2</td>
<td>18.5</td>
<td>34.8</td>
</tr>
<tr>
<td>3</td>
<td>19.2</td>
<td>36.0</td>
</tr>
<tr>
<td>4</td>
<td>16.9</td>
<td>31.7</td>
</tr>
<tr>
<td>5</td>
<td>14.9</td>
<td>28.1</td>
</tr>
<tr>
<td>6</td>
<td>22.8</td>
<td>42.9</td>
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<td>7</td>
<td>25.7</td>
<td>48.3</td>
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<td>8</td>
<td>29.0</td>
<td>54.6</td>
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<td>9</td>
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<td>47.0</td>
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<tr>
<td>10</td>
<td>16.4</td>
<td>30.9</td>
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<tr>
<td>11</td>
<td>14.2</td>
<td>26.7</td>
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<td>12</td>
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<td>25.9</td>
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<td>14</td>
<td>9.7</td>
<td>18.2</td>
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<tr>
<td>15</td>
<td>11.4</td>
<td>21.4</td>
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<td>16</td>
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<td>22.1</td>
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<td>17</td>
<td>14.2</td>
<td>26.6</td>
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<td>18</td>
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<td>19</td>
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<td>20</td>
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<td>23.2</td>
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<td>21</td>
<td>17.8</td>
<td>33.4</td>
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<td>22</td>
<td>17.7</td>
<td>33.2</td>
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<tr>
<td>23</td>
<td>16.1</td>
<td>30.2</td>
</tr>
<tr>
<td>24</td>
<td>19.4</td>
<td>36.5</td>
</tr>
</tbody>
</table>
## TABLE S-6.2

**AERMOD MODELING RESULTS**

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Averaging Period</th>
<th>AQ Standards</th>
<th>Model Result</th>
<th>Background</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO₂</td>
<td>1-hr*</td>
<td>75</td>
<td>25.4</td>
<td>4</td>
<td>29.4</td>
</tr>
<tr>
<td></td>
<td>3-hr</td>
<td>1,300</td>
<td>68.3</td>
<td>3</td>
<td>71.3</td>
</tr>
<tr>
<td></td>
<td>24-hr</td>
<td>375</td>
<td>33.2</td>
<td>3</td>
<td>36.2</td>
</tr>
<tr>
<td></td>
<td>Annual</td>
<td>80</td>
<td>3.7</td>
<td>0</td>
<td>3.7</td>
</tr>
<tr>
<td>NO₂</td>
<td>1-hr*</td>
<td>100</td>
<td>53.5</td>
<td>29</td>
<td>82.5</td>
</tr>
<tr>
<td></td>
<td>Annual</td>
<td>70</td>
<td>39.8</td>
<td>7.5</td>
<td>47.3</td>
</tr>
<tr>
<td>PM&lt;sub&gt;10&lt;/sub&gt;</td>
<td>24-hour</td>
<td>150</td>
<td>6.5</td>
<td>27</td>
<td>33.5</td>
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<tr>
<td></td>
<td>Annual</td>
<td>50</td>
<td>0.75</td>
<td>10.7</td>
<td>11.5</td>
</tr>
<tr>
<td>PM&lt;sub&gt;2.5&lt;/sub&gt;</td>
<td>24-hour</td>
<td>35</td>
<td>1.8</td>
<td>8</td>
<td>9.8</td>
</tr>
<tr>
<td></td>
<td>Annual</td>
<td>15</td>
<td>0.42</td>
<td>3.2</td>
<td>3.6</td>
</tr>
<tr>
<td>CO</td>
<td>1-hr</td>
<td>10,000</td>
<td>35.8</td>
<td>1,487</td>
<td>1,523</td>
</tr>
<tr>
<td></td>
<td>8-hr</td>
<td>5,000</td>
<td>62.7</td>
<td>915</td>
<td>978</td>
</tr>
</tbody>
</table>

Notes: All concentrations are in μg/m³ except 1-hr SO₂ and 1-hr NO₂ which are in ppb (†). Background data (CY 2019) from DOH Honolulu monitoring site for all except NO₂ which are from the Kapolei site.
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.

<table>
<thead>
<tr>
<th>40 CFR 60, Subparts A and Dc</th>
<th>40 CFR 63, Subparts A and JJJJJJ</th>
</tr>
</thead>
<tbody>
<tr>
<td>HAR 11-60.1-11, sampling, testing &amp; reporting</td>
<td>HAR 11-60.1-31, applicability</td>
</tr>
<tr>
<td>HAR 11-60.1-32(b), visible emissions</td>
<td>HAR 11-60.1-38, sulfur oxides</td>
</tr>
<tr>
<td>HAR 11-60.1, Subchapt. 5, Covered Sources</td>
<td>HAR 11-60.1, Subchapt. 6, Fees</td>
</tr>
<tr>
<td>HAR 11-60.1, Subchapt. 10, Field Citations</td>
<td>CSP 0024-01-C</td>
</tr>
</tbody>
</table>

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 fuel use changes will continue 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.

<table>
<thead>
<tr>
<th>Description of Remedial Action</th>
<th>Expected Date of Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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:

<table>
<thead>
<tr>
<th>Applicable Requirement</th>
<th>Effective Date</th>
<th>Currently in Compliance?</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td></td>
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</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Description of Proposed Action/Steps to Achieve Compliance</th>
<th>Expected Date of Achieving Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

N/A

N/A

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:

<table>
<thead>
<tr>
<th>Description of Remedial Action and Explanation</th>
<th>Expected Date of Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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:

Remedial Action

<table>
<thead>
<tr>
<th>N/A</th>
</tr>
</thead>
</table>

Date Achieved

| ______________________ |


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): Arkle

(First): Brian

(MI): P

Title: General Manager

Phone: (808) 834-7503

Mailing Address: 2771 Wai Wai Loop

City: Honolulu

State: HI

Zip Code: 96819

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): Brian P. Arkle

(Signature): [Signature]

Date: 11/2/21

Facility Name: Two (2) 400 HP Boilers

Location: 2771 Wai Wai Loop

Permit Number: CSP 0024-04-C
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): Arkle
(First): Brian
(MI): P
Title: General Manager
Phone: (808) 834-7503
Mailing Address: 2771 Wai Wai Loop
City: Honolulu
State: HI
Zip Code: 96819

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): Brian P. Arkle
(Signature): 
Date: 11/2/21

Facility Name: Two (2) 400 HP Boilers
Location: 2771 Wai Wai Loop
Permit Number: CSP 0024-04-C

FOR AGENCY USE ONLY

File/Application No.: 
Island: 
Date Received: 

(07/06) Form C-2 Page 1 of 3
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: ________2022________

2. Emissions Unit No./Description: 16.7 MMBTU/hr Superior Model 7-5-2000-S150-PF-GA2 and 16.7 MMBTU/hr Cleaver Brooks CB-400 gas/oil-fired boilers

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

   HAR, Chapt. 11-59, HAAQS
   HAR §11-60.1-11, sampling, testing & reporting
   HAR §11-60.1-32(b), visible emissions
   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 50, NAAQS
   40 CFR 60, Subparts A and Dc
   40 CFR 63, Subparts A and JJJJJJ
   CSP 0024-04-C

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 all annual performance, test plans and test reports will be maintained.
   i. Copies of biennial tune-up reports will be maintained.

Reporting
   j. Annual Emissions Report Form will be submitted.
   k. An annual compliance certification will be submitted.
   l. An Biennial Compliance Certificaiton Report Form: Boiler will be prepared and filed.

   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

**16.7 MMBTU/HR SUPERIOR OIL/GAS FIRED BOILER (OIL FIRING)**

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>AP42 EF (lb/kgal)</th>
<th>Opns Rate (gal/hr)</th>
<th>Emiss. (lb/hr)</th>
<th>Annual Opns (hr/yr)</th>
<th>Annual Opns (gal/yr)</th>
<th>Emiss. (T/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOx</td>
<td>16.80</td>
<td>119.6</td>
<td>2.009</td>
<td>5,604</td>
<td>670,000</td>
<td>5.63</td>
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<tr>
<td>CO</td>
<td>5.46</td>
<td>119.6</td>
<td>0.653</td>
<td>5,604</td>
<td>670,000</td>
<td>1.83</td>
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<tr>
<td>SO₂</td>
<td>7.1</td>
<td>119.6</td>
<td>0.849</td>
<td>5,604</td>
<td>670,000</td>
<td>2.38</td>
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<tr>
<td>VOC</td>
<td>5.25</td>
<td>119.6</td>
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<td>5,604</td>
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<td>1.760</td>
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<tr>
<td>PM₁₀</td>
<td>1.58</td>
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<td>0.53</td>
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<tr>
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<td>0.096</td>
<td>5,604</td>
<td>670,000</td>
<td>0.268</td>
</tr>
<tr>
<td>TSP</td>
<td>2.00</td>
<td>119.6</td>
<td>0.239</td>
<td>5,604</td>
<td>670,000</td>
<td>0.67</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>6.10E-02</td>
<td>119.6</td>
<td>7.29E-03</td>
<td>5,604</td>
<td>670,000</td>
<td>2.04E-02</td>
</tr>
<tr>
<td>Arsenic</td>
<td>5.60E-04</td>
<td>119.6</td>
<td>6.69E-05</td>
<td>5,604</td>
<td>670,000</td>
<td>1.88E-04</td>
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<tr>
<td>Beryllium</td>
<td>4.20E-04</td>
<td>119.6</td>
<td>5.02E-05</td>
<td>5,604</td>
<td>670,000</td>
<td>1.41E-04</td>
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<tr>
<td>Cadmium</td>
<td>4.20E-04</td>
<td>119.6</td>
<td>5.02E-05</td>
<td>5,604</td>
<td>670,000</td>
<td>1.41E-04</td>
</tr>
<tr>
<td>Chromium</td>
<td>4.20E-04</td>
<td>119.6</td>
<td>5.02E-05</td>
<td>5,604</td>
<td>670,000</td>
<td>1.41E-04</td>
</tr>
<tr>
<td>Mercury</td>
<td>4.20E-04</td>
<td>119.6</td>
<td>5.02E-05</td>
<td>5,604</td>
<td>670,000</td>
<td>1.41E-04</td>
</tr>
<tr>
<td>Manganese</td>
<td>8.40E-04</td>
<td>119.6</td>
<td>1.00E-04</td>
<td>5,604</td>
<td>670,000</td>
<td>2.81E-04</td>
</tr>
<tr>
<td>Nickel</td>
<td>4.20E-04</td>
<td>119.6</td>
<td>5.02E-05</td>
<td>5,604</td>
<td>670,000</td>
<td>1.41E-04</td>
</tr>
<tr>
<td>Lead</td>
<td>1.26E-03</td>
<td>119.6</td>
<td>1.51E-04</td>
<td>5,604</td>
<td>670,000</td>
<td>4.22E-04</td>
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<tr>
<td>Selenium</td>
<td>2.10E-03</td>
<td>119.6</td>
<td>2.51E-01</td>
<td>5,604</td>
<td>670,000</td>
<td>7.04E-01</td>
</tr>
</tbody>
</table>

**Sample Calculations:**

\[ \text{NOx: } 1000 \times \text{lb/hr / gal/hr} = \text{lb/kgal} \]
\[ 1000 \times 2.009 / 119.55 = 16.80 \text{ lb/kgal} \]
\[ \text{lb/kgal} \times \text{kgal/yr} / \text{lb/T} = \text{Emiss (T/yr)} \]
\[ 16.80 \times 670 / 2000 = 5.63 \text{ T/yr} \]

**Reference:**
Manufacturer specs
AP-42 Tables 1.3-1, 1.3-8, 1.3-10 and Appendix B-2
# Emissions Calculations

## 16.7 MMBTU/HR Cleaver Brooks

### Gas/Oil-Fired Boiler

(Oil Firing)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>AP42 EF (lb/kgal)</th>
<th>Opns Rate (gal/hr)</th>
<th>Emiss. (lb/hr)</th>
<th>Annual Opns (gal/yr)</th>
<th>Emiss. (T/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOx</td>
<td>20</td>
<td>119.5</td>
<td>2.390</td>
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<td>6.70</td>
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<tr>
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<td>5</td>
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<td>0.598</td>
<td>670,000</td>
<td>1.68</td>
</tr>
<tr>
<td>SO₂</td>
<td>7.1</td>
<td>119.5</td>
<td>0.848</td>
<td>670,000</td>
<td>2.38</td>
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<tr>
<td>VOC</td>
<td>0.34</td>
<td>119.5</td>
<td>0.041</td>
<td>670,000</td>
<td>0.11</td>
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<tr>
<td>PM₁₀</td>
<td>1.08</td>
<td>119.5</td>
<td>0.129</td>
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<td>0.36</td>
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<tr>
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<td>119.5</td>
<td>0.239</td>
<td>670,000</td>
<td>0.67</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>6.10E-02</td>
<td>119.5</td>
<td>7.29E-03</td>
<td>670,000</td>
<td>2.04E-02</td>
</tr>
<tr>
<td>Arsenic</td>
<td>5.60E-04</td>
<td>119.5</td>
<td>6.69E-05</td>
<td>670,000</td>
<td>1.88E-04</td>
</tr>
<tr>
<td>Beryllium</td>
<td>4.20E-04</td>
<td>119.5</td>
<td>5.02E-05</td>
<td>670,000</td>
<td>1.41E-04</td>
</tr>
<tr>
<td>Cadmium</td>
<td>4.20E-04</td>
<td>119.5</td>
<td>5.02E-05</td>
<td>670,000</td>
<td>1.41E-04</td>
</tr>
<tr>
<td>Chromium</td>
<td>4.20E-04</td>
<td>119.5</td>
<td>5.02E-05</td>
<td>670,000</td>
<td>1.41E-04</td>
</tr>
<tr>
<td>Mercury</td>
<td>4.20E-04</td>
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<td>5.02E-05</td>
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<td>1.41E-04</td>
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<tr>
<td>Manganese</td>
<td>8.40E-04</td>
<td>119.5</td>
<td>1.00E-04</td>
<td>670,000</td>
<td>2.81E-04</td>
</tr>
<tr>
<td>Nickel</td>
<td>4.20E-04</td>
<td>119.5</td>
<td>5.02E-05</td>
<td>670,000</td>
<td>1.41E-04</td>
</tr>
<tr>
<td>Lead</td>
<td>1.26E-03</td>
<td>119.5</td>
<td>1.51E-04</td>
<td>670,000</td>
<td>4.22E-04</td>
</tr>
<tr>
<td>Selenium</td>
<td>2.10E-03</td>
<td>119.5</td>
<td>2.51E-01</td>
<td>670,000</td>
<td>7.04E-04</td>
</tr>
</tbody>
</table>

### Sample Calculations:

10% ACF: \[0.10 \times 122 \times 8760 = 106,872 \text{ gal/yr}\]

NOx: \[
\text{lb/kgal x gal/yr /1000 = lb/hr} \\
20 \times 122 / 1000 = 2.44 \text{ lb/hr}
\]

\[
\text{lb/kgal x gal/yr / 1000 / 2000 = T/yr} \\
20 \times 106,876 / 1000 \times 2000 = 1.07 \text{ T/yr}
\]

### Reference:

AP-42 Tables 1.3-1, 1.3-7, 1.3-8, and 1.3-10
APPENDIX B

MANUFACTURER'S LITERATURE
Laboratory Report

Date Collected: 10/25/2021
Date Received: 10/28/2021
Project#: H.D.P.C.
Client SampleID: ECODIESEL 21-1025 T-54
Laboratory SampleID: 21101784-001
Matrix: Oil

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Method</th>
<th>Result</th>
<th>Analysis Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic (As)</td>
<td>EPA 6010 C</td>
<td>&lt; 1.00 ppm</td>
<td>10/28/2021</td>
</tr>
<tr>
<td>Cadmium (Cd)</td>
<td>EPA 6010 C</td>
<td>&lt; 0.100 ppm</td>
<td>10/28/2021</td>
</tr>
<tr>
<td>Chromium (Cr)</td>
<td>EPA 6010 C</td>
<td>&lt; 4.00 ppm</td>
<td>10/28/2021</td>
</tr>
<tr>
<td>Lead (Pb)</td>
<td>EPA 6010 C</td>
<td>&lt; 1.00 ppm</td>
<td>10/28/2021</td>
</tr>
<tr>
<td>Sulfur (S)</td>
<td>EPA 6010 C</td>
<td>0.0344 %</td>
<td>10/28/2021</td>
</tr>
<tr>
<td>API Gravity</td>
<td>ASTM D-4052</td>
<td>38.6 °API@60°F</td>
<td>10/28/2021</td>
</tr>
<tr>
<td>BTU/gal</td>
<td>ASTM D-240-09</td>
<td>137703 BTU/gal</td>
<td>10/28/2021</td>
</tr>
<tr>
<td>BTU/lb</td>
<td>ASTM D-240-09</td>
<td>19882 BTU/lb</td>
<td>10/28/2021</td>
</tr>
<tr>
<td>Flash Point</td>
<td>EPA 1010</td>
<td>118 °F</td>
<td>10/28/2021</td>
</tr>
<tr>
<td>Chlorine, Total</td>
<td>EPA 9075</td>
<td>&lt;200 ppm</td>
<td>10/28/2021</td>
</tr>
<tr>
<td>Viscosity</td>
<td>ASTM D-445</td>
<td>45.2 SUS@100°F</td>
<td>10/29/2021</td>
</tr>
<tr>
<td>Total PCBs</td>
<td>EPA 8082</td>
<td>&lt; 1.00 ppm</td>
<td>10/28/2021</td>
</tr>
</tbody>
</table>
1. IDENTIFICATION

Product Identifier: ECODIESEL™

Synonyms: No. 2 Heating Oil, #2 Fuel Oil, Low Sulfur Heating Oil (LSHO), Diesel Fuel No.2, Fuel Oil
No.2, High Sulfur Diesel Fuel, Low Sulfur Diesel Fuel, Off-Road Diesel Fuel, X Grade Diesel Fuel.

Intended use of the product: Fuel

Contact: Unitek Solvent Services Inc.
91-125 Kaomi Loop
Kapolei, HI 96707
www.uniteksolvent.com

Contact Information: EMERGENCY TELEPHONE NUMBER (24 hrs.): CHEMTREC (800) 424-9300
COMPANY CONTACT (business hours): 808-682-8284

2. HAZARD IDENTIFICATION

According to OSHA 29 CFR 1910.1200 HCS Classification of the Substance or Mixture Classification (GHS-US):

- Flammable Liquid: Category 3 H226
- Skin Corrosion/Irritation: Category 2 H315
- Aspiration Hazard: Category 1 H304
- Acute toxicity – Inhalation: Category 4 H332
- STOT SE: Category 3 H336
- Carcinogenicity: Category 2 H350
- Aquatic Chronic: Category 2 H411
- Eye damage/irritation: Category 2 H319

Labeling Elements

Signal Word (GHS-US): Danger
Hazard Statements (GHS-US):
- H226 – Flammable liquid and vapor.
- H315 – Causes Skin irritation.
- H304 – May be fatal if swallowed and enters airways. H332—Harmful if inhaled.
- H336 – May cause drowsiness or dizziness. H350 – May cause cancer.
SAFETY DATA SHEET  
Ecodiesel™

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Composition Information
Mixture

<table>
<thead>
<tr>
<th>Name</th>
<th>Product Identifier (CAS#)</th>
<th>% (w/w)</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 2 Fuel Oil</td>
<td>68476-30-2</td>
<td>95-100</td>
<td>Flam Liq. 3, H226; Skin irrit. 2, H315;</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Aspiration 1, H304; STOT SE 3, H336;</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Carc.2, H350; Aquatic chronic 2, H411</td>
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<tr>
<td>Methyl Esters</td>
<td>N/A</td>
<td>0.5</td>
<td>N/A</td>
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<tr>
<td>Naphthalene</td>
<td>91-20-3</td>
<td>0.1</td>
<td>Carc. 2, H351; Acute Tox. 4, H302;</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Aquatic Acute 1, H400; Aquatic Chronic 1, H411</td>
</tr>
</tbody>
</table>

Additional Formulation Information:
- Ecodiesel™ consists of C9+ hydrocarbons resulting from distillation of used motor oil.
- Ecodiesel™ Fuel typically contains less than 300 ppm of sulfur
- Ultra Low Sulfur Diesel Fuel Oil typically contains less than 15 ppm of sulfur

4. FIRST AID MEASURES

<table>
<thead>
<tr>
<th>Route</th>
<th>Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>Remove person to fresh air. If person is not breathing, ensure an open airway and provide artificial respiration. If necessary, provide additional oxygen once breathing is restored if trained to do so. Seek medical attention immediately.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Aspiration Hazard: DO NOT INDUCE VOMITING. Do not give liquids. Obtain immediate medical attention. If spontaneous vomiting occurs, lean victim forward to reduce the risk of aspiration. Ingestion may cause gastrointestinal disturbances including irritation, nausea, vomiting, and diarrhea, and central nervous system (brain) effects similar to alcohol intoxication. In severe cases, tremors, convulsions, loss of consciousness, coma, respiratory failure, and death.</td>
</tr>
<tr>
<td>Eye Contact</td>
<td>In case of contact with eyes, immediately flush with clean, low pressure water for at least 15 min. Hold eyelids open to ensure adequate flushing. Seek medical attention. In case of contact lenses, remove immediately.</td>
</tr>
<tr>
<td>Skin Contact</td>
<td>Remove contaminated clothing and shoes. Wash contaminated areas thoroughly with soap and water or waterless hand cleanser. Obtain medical attention if irritation or redness develops. Thermal burns require immediate medical attention depending on the severity and of the area of the body burned.</td>
</tr>
</tbody>
</table>

Most Important Symptoms
Contact with eyes and face may cause irritation. Long-term exposure may cause dermatitis (itching, irritation, pain and swelling).

Inhalation may cause irritation and significant or long term exposure could cause respiratory insufficiency and pulmonary edema.

Ingestion may cause aspiration, gastrointestinal disturbance, and CNS effects.

Immediate Medical Attention and Special Treatment
For contact with skin or eyes, immediately wash or flush contaminated eyes with gently flowing water. If possible, irrigate each eye continuously with 0.9% saline (NS). If ingested, rinse mouth. Do NOT induce vomiting, as this may cause chemical pneumonia (fluid in the lungs).

If inhaled, administer oxygen or establish a patent airway if breathing is labored. Suction if necessary. Monitor closely, anticipate seizures. Consider orotracheal or nasotracheal intubation of airway control if patient is unconscious or is in severe respiratory distress.

Discard any clothing or shoes contaminated as they may be flammable.
### SAFETY DATA SHEET

**Ecodiesel™**

#### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Occupational exposure limits**

- **US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naphthalene (CAS 91-20-3)</td>
<td>PEL</td>
<td>50 mg/m³</td>
</tr>
<tr>
<td>n-Heptane (CAS 142-82-5) n-</td>
<td>PEL</td>
<td>10 ppm</td>
</tr>
<tr>
<td>Hexane (CAS 110-54-3)</td>
<td>PEL</td>
<td>2000 mg/m³</td>
</tr>
<tr>
<td>Octane (All isomers) (CAS 111-65-9)</td>
<td>PEL</td>
<td>500 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1800 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>500 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2350 mg/m³</td>
</tr>
</tbody>
</table>

- **US. ACGIH Threshold Limit Values**

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuels, diesel, no. 2 (CAS 68476-34-6)</td>
<td>TWA</td>
<td>100 mg/m³</td>
</tr>
<tr>
<td>Hexane (Other isomers) (CAS 96-14-0)</td>
<td>STEL</td>
<td>1000 ppm</td>
</tr>
<tr>
<td>Naphthalene (CAS 91-20-3)</td>
<td>STEL</td>
<td>500 ppm</td>
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<td>n-Heptane (CAS 142-82-5)</td>
<td>TWA</td>
<td>15 ppm</td>
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<tr>
<td>n-Hexane (CAS 110-54-3) n-</td>
<td>TWA</td>
<td>10 ppm</td>
</tr>
<tr>
<td>Nonane (CAS 111-84-2)</td>
<td>TWA</td>
<td>500 ppm</td>
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<tr>
<td>Octane (All isomers) (CAS 111-65-9)</td>
<td>TWA</td>
<td>400 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>200 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>300 ppm</td>
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</tbody>
</table>

- **US. NIOSH: Pocket Guide to Chemical Hazards**

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hexane (Other isomers) (CAS 96-14-0)</td>
<td>Ceiling</td>
<td>1800 mg/m³</td>
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<tr>
<td></td>
<td>TWA</td>
<td>510 ppm</td>
</tr>
<tr>
<td>Naphthalene (CAS 91-20-3)</td>
<td>STEL</td>
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<td>TWA</td>
<td>100 ppm</td>
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<tr>
<td>n-Heptane (CAS 142-82-5)</td>
<td>Ceiling</td>
<td>75 mg/m³</td>
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<td>TWA</td>
<td>15 ppm</td>
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<tr>
<td>n-Hexane (CAS 110-54-3) n-</td>
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<td>50 mg/m³</td>
</tr>
<tr>
<td>Nonane (CAS 111-84-2)</td>
<td>TWA</td>
<td>10 ppm</td>
</tr>
<tr>
<td>Octane (All isomers) (CAS 111-65-9)</td>
<td>Ceiling</td>
<td>1800 mg/m³</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>85 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>180 mg/m³</td>
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<tr>
<td></td>
<td>TWA</td>
<td>50 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
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<td>Ceiling</td>
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<tr>
<td></td>
<td>TWA</td>
<td>1800 mg/m³</td>
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<tr>
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<td>TWA</td>
<td>385 ppm</td>
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<tr>
<td></td>
<td>TWA</td>
<td>350 mg/m³</td>
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<tr>
<td></td>
<td>TWA</td>
<td>75 ppm</td>
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</tbody>
</table>