

PROPOSED

date

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
(***)**

07- CAB
File No. 0007

Mr. Warren H.W. Lee
President
Hawaii Electric Light Company, Inc.
P.O. Box 1027
Hilo, Hawaii 96721-1027

Dear Mr. Lee:

**Subject: Covered Source Permit (CSP) No. 0007-01-C
Application for Renewal No. 0007-04
Hawaii Electric Light Company, Inc.
Two (2) 20 MW Combustion Turbine Generators, Units CT-4 and CT-5, with
Two (2) Heat Recovery Steam Generators and One (1) 16 MW Steam
Turbine, Three (3) 2.5 MW Diesel Engine Generators, and One (1) 500 kW
Diesel Engine Generator
Located at: Keahole Generating Station, Keahole, Hawaii
Date of Expiration: + 5 years**

The subject Covered Source Permit is amended in accordance with Hawaii Administrative Rules, Title 11, Chapter 60.1. The renewal of this permit is based on the information that you submitted as part of your renewal application dated March 4, 2005 and the additional information dated August 9, 2006.

This permit, as amended supersedes Covered Source Permit (CSP) No. 0007-01-C issued on July 25, 2001, the amendments issued on May 28, 2004 and June 28, 2006 and CSP No. 0256-01-C issued on May 30, 2002 in their entirety.

The Covered Source Permit is issued subject to the conditions/requirements set forth in the following Attachments:

- Attachment I: Standard Conditions
- Attachment IIA: Special Conditions for the Combustion Turbines
- Attachment IIB: Special Conditions for the Diesel Engines
- Attachment II-INSIG Special Conditions for Insignificant Activities
- Attachment III: Annual Fee Requirements
- Attachment IV: Annual Emissions Reporting Requirements

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date
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The forms for the submission of reports and annual emissions are as follows:

- Annual Emissions Report Form: Combustion Turbines
- Annual Emissions Report Form: Ammonia Slip
- Annual Emissions Report Form: Diesel Engines
- Monitoring Report Form: Operating Hours: Black Start Diesel Engine Generator
- Monitoring Report Form: Daily Start-up and Shut Down
- Monitoring Report Form: Fuel Consumption
- Monitoring Report Form: Fuel Certification
- Monitoring Report Form: Visible Emission Exceedances
- Excess Emission and Monitoring System Performance Summary Report
- Visible Emissions Form Requirements
- Visible Emissions Form
- Compliance Certification Form
- The Ringelmann Chart

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, 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.

Sincerely,

THOMAS E. ARIZUMI, P.E., CHIEF
Environmental Management Division

SS:nn

Enclosures

c: Wendall Sano, EHS – Kona
CAB Monitoring Section

PROPOSED

ATTACHMENT I: STANDARD CONDITIONS COVERED SOURCE PERMIT NO. 0007-01-C

Issuance Date:

Expiration Date:

This permit is granted in accordance with the Hawaii Administrative Rules (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 of Health, 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 of Health.

(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 of Health 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 Covered Source Permit. There shall be no deviation unless additional or revised plans are submitted to and approved by the Department of Health, 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 of Health and U.S. EPA Region 9 in writing of the following dates:
- 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;
 - The **actual date of construction commencement** within fifteen (15) days after such date; and
 - 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 of Health 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 of Health copies of records required to be kept by the permittee. For information claimed to be confidential, the Director of Health may require the permittee to furnish such records not only to the Department of Health 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 of Health 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:
- Identification of the specific equipment to be taken out of service, as well as its location and permit number;
 - The expected length of time that the air pollution control equipment will be out of service;
 - The nature and quantity of emissions of air pollutants likely to be emitted during the shutdown period;
 - Measures such as the use of off-shift labor and equipment that will be taken to minimize the length of the shutdown period; and
 - 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 Health 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 of Health 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 of Health.

(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 of Health, 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 the facility covered by this permit**, the discontinuance shall be reported in writing to the Department of Health 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 of Health and the U.S. EPA Region 9 no less than twelve months and no more than eighteen months prior to the permit expiration date. The director may allow a permit renewal application to be submitted no less than six 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 of Health 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:**

**Clean Air Branch
Environmental Management Division
Hawaii Department of Health
P.O. Box 3378
Honolulu, HI 96801-3378**

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

**Chief
Permits Office, (Attention: Air-3)
Air Division
U.S. Environmental Protection Agency
Region 9
75 Hawthorne Street
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.

CSP No. 0007-01-C
Attachment I
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Issuance Date:
Expiration Date:

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(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 IIA: SPECIAL CONDITIONS FOR THE COMBUSTION TURBINES
COVERED SOURCE PERMIT NO. 0007-01-C**

Issuance Date: date

Expiration Date: +5 years

In addition to the standard conditions of the Covered Source Permit, the following special conditions shall apply to the permitted facility:

Section A. Equipment Description

1. This attachment encompasses the following equipment and associated appurtenances:
 - a. Two (2) 20 MW General Electric LM2500 combustion turbine generators, units CT-4 and CT-5; and
 - b. One (1) 16 MW steam turbine generator unit, ST-7, including two (2) unfired heat recovery steam generators (HRSG) with two (2) selective catalytic reduction (SCR) units.

2. The permittee shall permanently attach an identification tag or name plate on the combustion turbines which identifies the model no., serial no., and manufacturer. The identification tag or nameplate shall be permanently attached to the combustion turbines at a conspicuous location.

(Auth.: HAR §11-60.1-3)

(Auth.: HAR §11-60.1-5)

Section B. Applicable Federal Regulations

The combustion turbines are subject to the provisions of the following federal standards. The permittee shall comply with all applicable requirements of these standards including all emission limits, notification, testing, monitoring, and reporting requirements. The major requirements of these standards are detailed in this attachment.

1. 40 CFR Part 60, Standards of Performance for New Stationary Sources, Subpart A - General Provisions; and
2. 40 CFR Part 60, Standards of Performance of New Stationary Sources, Subpart GG - Standards of Performance for Stationary Gas Turbines.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR §60.1, §60.330)¹

Section C. Operational Limitations

1. Start-up and Shutdown

- a. The "start-up" time shall not exceed twenty (20) minutes for any combustion turbine generator operating in simple cycle and ninety (90) minutes for any combustion turbine generator operating in combined cycle. Except during maintenance (e.g., equipment installations and inspections, and electrical switching work), testing, and emergency power demands due to sudden loss of a power generating unit, each combustion turbine generator shall not be started up more than four times per calendar day. A "start-up" sequence shall be from the time fuel use at the combustion turbine generator begins, until the time the combustion turbine generator is initially brought up to 25 percent of peak load at which time the operation of the air pollution control equipment shall commence.
- b. The "shutdown" time for any combustion turbine generator operating in either simple or combined cycle shall not exceed twenty (20) minutes. Except during maintenance (e.g., equipment installations and inspections, and electrical switching work), testing, and emergency power demands due to sudden loss of a power generating unit, each combustion turbine generator shall not be shut down more than four (4) times per calendar day. A "shutdown" sequence shall be considered from the time when the combustion turbine generator is operating below 25 percent of peak load, until fuel consumption at the combustion turbine generator ceases.

2. Minimum Operational Loads

The combustion turbine generators shall not operate below 25 percent of peak load, except during equipment start-up, shutdown, maintenance, or testing.

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

3. Air Pollution Equipment

The use of an alternative control system other than those specified below is contingent upon receiving the Department of Health's written approval to use such a system and shall not relieve the permittee from the responsibility to meet all emission limitations contained within this Covered Source Permit.

a. Combustor Water Injection

The permittee shall continuously operate and maintain a combustor water injection system to meet the emission limits as specified in Attachment II, Special Condition D.1. of this Covered Source Permit. The combustor water injection system shall be fully operational and commence operation immediately after the start-up sequence of the combustion turbine generators. The combustor water injection system shall continue to operate until the commencement of the shutdown sequence of the combustion turbine generators.

The operation of the combustor water injection system shall be used whenever the combustion turbine generators are operating at 25 percent peakload and above. The following water-to-fuel ratio shall be maintained when the combustion turbine

generators are in simple cycle operation or in combined cycle operation at loads less than 50 percent of the peakload.

WATER INJECTION SYSTEM MINIMUM WATER-TO-FUEL MASS RATIO BASED ON LOAD

Combustion Turbine Generator Peakload (Percent)	Ratio (lb-water/lb-fuel)
100	1.04
75 - <100	0.94
50 - <75	0.87
25 - <50	0.72

b. Selective Catalytic Reduction System

The permittee shall design, install, maintain, and continuously operate a selective catalytic reduction system with ammonia injection to meet the emission limits as specified in Attachment II, Special Condition D.1. of this Covered Source Permit.

The selective catalytic reduction system shall be fully functional and in operation whenever the combustion turbine generators are in combined cycle operation at loads greater than or equal to 50 percent of the peakload. The selective catalytic reduction system shall continue to operate until the load is reduced to below 50 percent of the peakload.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90, §11-60.1-140)

4. Fuel Specifications

a. Sulfur Content

The combustion turbine generators and diesel engines shall be fired only on fuel oil no. 2 with a maximum sulfur content not to exceed 0.4 percent by weight.

b. Nitrogen Content

The fuel bound nitrogen content of the fuel fired in the combustion turbine generators, units CT-4 and CT-5, shall not exceed 0.015 percent by weight on a rolling twelve (12) month average.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90, §11-60.1-140)

5. Alternate Operating Scenarios

Terms and conditions for reasonably anticipated operating scenarios identified by the

source in the covered source permit application and approved by the Department of Health are as follows:

- a. Upon receiving written approval from the Department of Health, the permittee may replace any of the combustion turbine generators with a temporary replacement unit in the event of a sudden malfunction or a planned major overhaul. The temporary replacement unit shall comply with all applicable permit conditions.

A written request shall be submitted to the Department of Health prior to the exchange and at a minimum, the request shall include the following:

- i. the reason for temporary replacement;
- ii. the removal and estimated return dates of the permitted unit;
- iii. the make, model, serial number, and size of the temporary replacement unit; and
- iv. the emissions data of the permitted and temporary replacement unit.

The Department of Health may require an ambient air quality impact analysis and/or may impose additional requirements on the temporary replacement unit to ensure compliance with the conditions of this permit.

- b. The combustion turbine generators may operate below 25 percent of peak load during:
 - i. Testing of the heat recovery steam generators and steam turbine; and
 - ii. Steam blows needed to clean the steam tubes prior to initial operation.
- c. In the event of equipment malfunctions, such as the sudden loss of a unit, the combustion turbine generators may operate up to 110 percent of peak load. The time period for operating the combustion turbines above 100 percent peak load shall be limited to no more than 30 minutes in duration. Under no circumstance shall the emission limits specified in Special Condition D.1. of this attachment be exceeded.
- d. Upon receiving written approval from the Department of Health, the permittee may burn an alternative fuel provided the permittee demonstrates compliance with all applicable state and federal requirements and applicable conditions of this covered source permit. The alternative fuel shall be burned only temporarily, and shall not result in an increase in emissions of any air pollutant or in the emission of any air pollutant not previously emitted. The permittee shall not be allowed to switch fuels unless all of the following information is provided:
 - i. Specific type of fuel provided;
 - ii. Consumption rate of the fuel;
 - iii. Fuel blending rate;
 - iv. Emissions calculations;
 - v. Ambient air quality analyses verifying that SAAQS will be met;
 - vi. Fuel storage; and
 - vii. Plan to monitor and record the fuel analyses and consumption.
- e. The permittee may use fuel additives to reduce corrosion, control biological growth, and

enhance combustion. Additives used during this scenario shall not affect emission estimates.

- f. Upon receiving written approval from the Department of Health, the permittee may use alternate means and methods to improve combustion and/or reduce emissions provided the permittee demonstrate that the following conditions will be met.
 - i. The national and state ambient air quality standards will not be violated.
 - ii. The emissions and emission rates do not exceed the permitted emission limits.
 - iii. The facility shall continue to operate and comply with the conditions of this permit.
 - iv. There are no emissions of air pollutants not previously emitted.

The Department of Health may approve, conditionally approve, or deny any request for using alternate means and methods. Under no circumstance shall an alternate mean and/or method be employed without the prior written approval, or conditional approval, of the Department of Health.

- g. The permittee shall, contemporaneously with making a change from one operating scenario to another, record in a log at the permitted facility the scenario under which it is operating and, if required by any applicable requirement or the Department of Health, submit written notification to the Department of Health; and
- h. The terms and conditions under each alternative operating scenario shall meet all applicable requirements including all conditions of this permit.

(Auth.: HAR §11-60.1-90)

Section D. Emission Limitations

1. Maximum Emission Limits

The permittee shall not discharge or cause the discharge into the atmosphere from each of the combustion turbine generator nitrogen oxides, sulfur dioxide, particulate matter/PM₁₀, carbon monoxide, volatile organic compounds, and ammonia in excess of the following specified limits:

Combustion Turbine Generator Operating in the Simple Cycle Mode

Compound	Maximum Emission Limit (3-hour Average)	
	(lbs/hr)	(ppmvd @ 15 percent O ₂)
Nitrogen Oxides as NO ₂	42.3	42
Sulfur Dioxide	110	79
Particulate Matter/PM ₁₀	19.7	0.045 (gr/dscf @ 12 percent O ₂)
Carbon Monoxide		
100% Peakload	26.8	44
75% - <100% Peakload	56.4	123
50% - <75% Peakload	181.0	566
25% - <50% Peakload	475.6	2,386
Volatile Organic Compounds		
100% Peakload	0.8	2.5
75% - <100% Peakload	2.6	11.8
50% - <75% Peakload	28.1	178
25% - <50% Peakload	297.6	3,025

Combustion Turbine Generator Operating in the Combined Cycle Mode

Compound	Maximum Emission Limit (3-hour Average)	
	(lbs/hr)	(ppmvd @ 15 percent O ₂)
Nitrogen Oxides as NO ₂		
50% - 100% Peakload	15.1	15
25% - <50% Peakload	42.3	42
Sulfur Dioxide	110	79
Particulate Matter/PM ₁₀	19.7	0.045 (gr/dscf @ 12 percent CO ₂)
Carbon Monoxide		
100% Peakload	26.9	44
75% - <100% Peakload	50.2	105
50% - <75% Peakload	170.4	523
25% - <50% Peakload	457.4	2,218
Volatile Organic Compounds		
100% Peakload	0.8	2.5
75% - <100% Peakload	2.0	8.6
50% - <75% Peakload	25.0	156
25% - <50% Peakload	271.0	2,662
Ammonia	4.30	10

The Department of Health, with U.S. EPA Region 9 concurrence, may revise the allowable emission limitation for nitrogen oxides, particulate matter, carbon monoxide, volatile organic compounds, and ammonia after reviewing the initial performance test results required under Attachment II, Section G of this Covered Source Permit. The Department of Health, with U.S. EPA Region 9 concurrence, may also revise the water-to-fuel ratios or include ammonia-to-NO_x injection rates if findings through operating parameters and performance test results show an optimum operating range which minimizes emissions.

If the nitrogen oxides, particulate matter, carbon monoxide, volatile organic compounds, or ammonia emission limit is revised, the difference between the applicable emission limit set forth above and the revised lower emission limit shall not be allowed as an emission offset for future construction or modification.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-140)

2. For any six (6) minute averaging period, the combustion turbines shall not exhibit visible emissions of twenty (20) percent opacity or greater, except as follows: during startup, shutdown, or equipment breakdown, the combustion turbines may exhibit visible emissions greater than twenty (20) but not exceeding sixty (60) percent opacity for a period aggregating not more than six (6) minutes in any sixty (60) minute period. In the event of equipment breakdown, the equipment shall be shut down within one (1) hour if the opacity problem cannot be corrected within the six (6) minute period.

(Auth.: HAR §11-60.1-3, §11-60.1-32, §11-60.1-90; SIP '11-60-24)²

3. Fugitive Emissions

- a. Potential sources of fugitive emissions in fuel oil transfer systems shall be inspected and maintained on a regular schedule to control VOC emissions.
- b. The permittee shall maintain records of inspections of the fuel oil transfer system as part of the operational log. The permittee shall provide the Department of Health with copies of the log upon request.
- c. The permittee shall provide access to the Department of Health to inspect tank weld, seams, gauge hatches, sampling ports and pressure relief valves.

(Auth.: HAR §11-60.1-4, §11-60.1-90)

Section E. Monitoring and Recordkeeping

All records, including support information, shall be maintained for at least five (5) years from the date of the monitoring sample, measurement, test, report, or application. Support information includes all calibration and maintenance records and copies of all reports required by the permit.

These records shall be true, accurate, maintained in a permanent form suitable for inspection and made available to the Department of Health or their representative upon request.

1. Continuous Monitoring Systems

All monitoring systems shall record the date and time that the measured parameters and data were collected.

- a. The permittee shall continuously monitor and record the operating load of the combustion turbines.
- b. The permittee shall operate and maintain a continuous monitoring system to monitor and record the ratio of water-to-fuel being fired in the combustion turbines. The water-to-fuel monitor/recorder shall be accurate to +/- 5 percent.
- c. The permittee shall operate and maintain a total volumetric flow metering system for the continuous measurement and recording of the fuel usage of the combustion turbine generators. The permittee shall maintain records on the total amount of fuel fired in the combustion turbine generators.
- d. The permittee shall operate and maintain a continuous monitoring system to measure and record the NO_x, CO, and carbon dioxide (CO₂) or oxygen (O₂) concentrations in the stack gas from the combustion turbines. The emission rates for NO_x and CO shall be recorded in parts per million by volume dry (ppmvd) at 15 percent O₂ and pounds per hour (lbs/hr).
- e. Prior to the startup of the selective catalytic reduction system and thereafter, the permittee shall at its own expense install, operate, and maintain a continuous monitoring system for each combustion turbine to measure and record the following parameters and data.
 - i. The ammonia injection rate in pounds per hour (lbs/hr) and the ammonia-to-NO_x ratio. The ratio shall be based on the pounds per hour of ammonia injected into the SCR to the pounds of NO_x entering the SCR system.
 - ii. The NO_x and carbon dioxide (CO₂) or oxygen (O₂) concentrations in the exhaust gas stream at a point between the exit of the combustion turbine with water injection and the entrance to the SCR system.

The emission rates for NO_x shall be recorded in parts per million by volume dry (ppmvd) at 15 percent O₂ and in lbs/hr. The continuous emissions monitoring system used for these measurements shall meet the U.S. EPA performance specifications of 40 CFR Part 60 Section 60.13, Appendix B, and Appendix F.

- f. The permittee shall operate and maintain a transmissometer continuous monitoring system for the measurement and recording of the opacity of stack emissions. The

systems shall meet the U.S. EPA monitoring performance standards of 40 CFR Part 60 Section 60.13 and 40 CFR Part 60, Appendix B, Performance Specifications.

- g. The permittee shall maintain a file of all measurements and monitoring data, performance testing requirements and results, system performance evaluations, calibration checks, adjustments and maintenance as performed, and all other information required by 40 CFR Part 60 recorded in a permanent form suitable for inspection.

(Auth.: HAR §11-60.1-3, §11-60.1-90)

2. Ammonia Slip

Records shall be maintained on the amount of ammonia slip from the operation of the selective catalytic reduction system. Estimates of ammonia slip shall be based on the ammonia emission rates measured during the initial and subsequent annual performance test required by Section G. of this Attachment. Back-up data, calculations, and the resulting ammonia emissions shall be maintained on a monthly basis.

(Auth.: HAR §11-60.1-3, §11-60.1-90)

3. Fuel Specifications

- a. The fuel sulfur content of the fuel fired in the combustion turbines shall be verified by one of the following methods:
 - i. A representative sample of each batch of the fuel received shall be analyzed using the most current version of any of the following American Society for Testing and Materials (ASTM) methods: D129, D2622, D4292, D5453, or D1552; or
 - ii. A certificate of analysis on the sulfur content (percent by weight) shall be obtained from the fuel supplier for each batch of fuel received.
- b. The fuel bound nitrogen content of the fuel fired in the combustion turbines shall be verified by the following method. A representative sample of each batch of fuel received shall be analyzed for its nitrogen content by weight using the most current version of any of the following American Society for Testing and Materials (ASTM) methods: D6366, D4629, or D5762.
- c. The permittee shall maintain records of the fuel delivery receipts, the supplier's certificate of analysis showing the sulfur content of the fuel delivered, and all test analysis. At a minimum, the test analysis shall include the following:
 - i. Type of fuel;
 - ii. Date and time the fuel sample was drawn;
 - iii. Date the analyses were performed;
 - iv. Name and address of the company or entity that performed the analyses;

- v. Means and methods used to analyze the fuel; and
- vi. Analyses results.

Records of the sulfur and nitrogen contents of the fuel shall be maintained on a monthly basis.

(Auth.: HAR §11-60.1-3, §11-60.1-90)

4. An inspection, maintenance, and repair log shall be maintained for the combustion turbines and selective catalytic reduction system. Replacement and repairs to the catalyst of the selective catalytic reduction system shall be documented.

(Auth.: HAR §11-60.1-3, §11-60.1-90)

Section F. Notification and Reporting Requirements

1. Notification and reporting pertaining to the following events shall be done in accordance with Attachment I, Standard Conditions Nos. 14, 16, 17, and 24, respectively:
 - a. *Anticipated date of initial start-up, actual date of construction commencement, and actual date of start-up;*
 - b. *Intent to shut down air pollution control equipment for necessary scheduled maintenance;*
 - c. *Emissions of air pollutants in violation of HAR, Chapter 11-60.1 or this permit (excluding technology-based emission exceedences due to emergencies); and*
 - d. *Permanent discontinuance of construction, modification, relocation, or operation of the facility covered by this permit.*

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

2. 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 preventive measures taken. Corrective actions may include a requirement for additional stack testing, or more frequent monitoring, or could trigger implementation of a corrective action plan.

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

3. **Within sixty (60) days** after initial start-up of the selective catalytic reduction system, the permittee shall submit to the Department of Health a quality assurance project plan for the continuous monitoring system conforming to 40 CFR Part 60, Appendix F.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR Part 60 Appendix F)

4. The permittee shall notify the Department of Health in writing **within thirty (30) days** prior to conducting performance specification tests on the continuous monitoring system. The testing date shall be in accordance with the performance test date identified in 40 CFR Part 60 Section 60.13.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR §60.13)

5. The permittee shall submit a written report of all excess emissions, including those associated with the water-to-fuel ratio requirement, to the Department of Health and U.S. EPA Region 9 **every semi-annual period**. The report shall include the following:
 - a. The magnitude of excess emissions computed in accordance with 40 CFR Part 60 Subsection 60.13(h), any conversion factors used, and the date and time of commencement, completion of each time period of excess emissions, and the corresponding operating load of the combustion turbine generators.
 - b. Specific identification of each period of excess emissions that occurs during start-ups, shutdowns, and malfunctions of the combustion turbine generators. The nature and cause of any malfunction (if known), and the corrective action taken or preventive measures adopted, shall also be reported.
 - c. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks. The nature of each system repair or adjustment shall be described.
 - d. The report shall state if no excess emissions have occurred. Also, the report shall state if the CEMS operated properly during the period and was not subject to any repairs or adjustments except for zero and span checks.
 - e. All reports shall be postmarked by the 30th day following the end of each semi-annual period. The enclosed ***Excess Emissions and Monitoring System Performance Summary Report*** form, or similar form shall be used in conjunction to the reporting of excess emissions of NO_x, CO, and opacity.
 - f. For purposes of this Covered Source Permit, excess emissions shall be defined as follows:
 - i. Any three (3) hour period during which the average emissions of NO_x and CO, as measured by the continuous monitoring system, exceed the emission limits set forth in Attachment II, Special Condition D.1.;
 - ii. During simple cycle operation and combined cycle operation at loads less than 50 percent of peakload, any one (1) hour period during which the average water-to-fuel ratio, as measured by the continuous monitoring system, falls below the water-to-fuel

ratio at the corresponding operating load specified in Special Condition C.3. of this attachment; and

- iii. Any opacity measurements, as measured by the transmissometer continuous monitoring system, exceeding the opacity limits and corresponding averaging times set forth in Special Condition D.2. of this attachment.
- g. On and after the date of completion of the source performance test and CEMS certification, excess emissions indicated by the continuous emission monitoring system shall be considered violations of the applicable emission limit for the purposes of the permit with the following exceptions:
 - i. During the twenty (20) minute and ninety (90) minute start-up period of the combustion turbine generators operating in the simple cycle mode and combined cycle mode, respectively;
 - ii. During the twenty (20) minute shutdown period of the combustion turbine generators operating in either the simple cycle mode or combined cycle mode;
 - iii. Nitrogen oxide emissions in excess of 42 ppmvd at 15 percent O₂ while operating in simple cycle mode and combined cycle mode at loads less than 50 percent of peakload or 15 ppmvd at 15 percent O₂ while operating in combined cycle mode at loads equal to or greater than 50 percent of peakload if it can be shown that the excess emissions resulted from the firing of fuel with a fuel-bound nitrogen content in excess of 0.015 percent by weight. Under no circumstance shall the nitrogen oxide emission limit of 42.3 pounds per hour while operating in simple cycle mode and combined cycle mode at loads less than 50 percent of peakload or 15.1 pounds per hour while operating in combined cycle mode at loads equal to or greater than 50 percent of peakload, as specified in Special Condition D.1. of this attachment, be exceeded.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR Part §60.13)

- 6. The permittee shall submit **semi-annually** the following written reports to the Department of Health. The report shall be submitted **within sixty (60) days** after the end of each semi-annual calendar period, and shall include the following:
 - a. A monthly summary listing the time and duration of all start-up and shut-down sequences for each combustion turbine. The summary shall include the combustion turbine generator load (MW) at the time the air pollution control devices and systems are initiated and terminated. The enclosed **Monitoring Report Form: Daily Start-up and Shutdown**, or similar form, shall be used.
 - b. Except for all start-up and shutdown sequences, report all periods where the minimum operating load for each combustion turbine was less than 25 percent of the rated capacity. The report shall include the date, time, and duration of each period.

- c. A summary of the occurrences and duration of any malfunction in the operation of the combustion turbine generators and air pollution control devices. The summary shall be for each semi-annual reporting period and include the corrective actions taken during the reporting period. Malfunctions occurring in previous reporting periods shall be continually listed in the summary until the corrective actions are completed.
- d. A report identifying the type of fuel fired in each of the combustion turbines during the semi-annual reporting period. The report shall include the maximum sulfur content (percent by weight) and the average nitrogen content (percent by weight) of the fuel for the reporting period. The report shall identify the means and methods used to verify the sulfur and nitrogen content of each fuel. The enclosed **Monitoring Report Form: Fuel Certification**, or similar form, shall be used.
- e. Except during the start-up and shutdown sequences, a report detailing all incidences where the air pollution control devices/systems were not fully operational when the combustion turbines were operating. The report for each combustion turbine shall include the date, time, and duration of each incidence. The report shall list the corrective actions taken and the operational procedures used to minimize emissions during the incident.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90, §11-60.1-161; 40 CFR §60.334)

7. Annual Emissions

As required by Attachment IV and in conjunction with the requirements of Attachment III, Annual Fee Requirements, the permittee shall submit **annually** the total tons/yr. 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 Forms shall be used.

Upon a written request from the permittee, the deadline for reporting of annual emissions may be extended, if the Department of Health determines that reasonable justification exists for the extension.

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

8. Compliance Certification

During the permit term, the permittee shall submit at least **annually** to the Department of Health and U.S. EPA Region 9, the attached **Compliance Certification Form** pursuant to HAR, Subsection 11-60.1-86. The permittee shall indicate whether or not compliance is being met with each term or condition of this permit. The compliance certification shall include, at a minimum, the following information:

- 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; and
- f. Any additional information as required by the Department of Health including information to determine compliance.

The compliance certification shall be submitted **within ninety (90) days** after the end of each calendar year, and shall be signed and dated by a responsible official. Upon a written request from the permittee, the deadline for submitting the compliance certification may be extended, if the Department of Health determines that reasonable justification exists for the extension.

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

Section G. Testing Requirements

1. **Within sixty (60) days** after achieving the maximum production rate of the 16 MW steam turbine, but not later than one hundred eighty (180) days after the initial start-up of the 16 MW steam turbine (as defined in 40 CFR Part 60.2), the permittee shall conduct or cause to be conducted performance tests on the combustion turbine generators operating with SCR in the combined cycle mode.

(Auth.: HAR §11-60.1-5, §11-60.1-11, §11-60.1-90, §11-60.1-161; 40 CFR 60.335)¹

2. The permittee shall conduct or cause to be conducted, performance tests on the combustion turbine generators while operating in simple cycle mode, combined cycle mode at loads less than 50 percent of peakload, and combined cycle mode with SCR at loads equal to and greater than 50 percent peakload **on an annual basis** or at other times specified by the Department of Health.

(Auth.: HAR §11-60.1-5, §11-60.1-11, §11-60.1-90, §11-60.1-161; 40 CFR 60.335)¹

3. All performance tests shall be conducted at 25, 50, 75, and 100 percent of the peak load of the combustion turbine generators. The Department of Health may require the permittee to conduct the performance tests at additional operating loads.

(Auth.: HAR §11-60.1-5, §11-60.1-11, §11-60.1-90, §11-60.1-161; 40 CFR 60.8, 60.335)¹

4. The performance tests on the combustion turbines operating in the simple cycle and combined cycle modes shall be conducted for nitrogen oxides (NO_x), sulfur dioxide (SO₂), carbon monoxide (CO), particulate matter (PM), and volatile organic compounds (VOC).

(Auth.: HAR §11-60.1-5, §11-60.1-11, §11-60.1-90, §11-60.1-161; 40 CFR 60.335)¹

5. The performance test on the combustion turbines operating in the combined cycle mode with SCR shall be conducted for nitrogen oxides (NO_x), sulfur dioxide (SO₂), carbon monoxide (CO), particulate matter (PM), volatile organic compounds (VOC), and ammonia (NH₃).

A performance test shall also be conducted for carbon dioxide (CO₂) or oxygen (O₂) concentrations in the gas stream at a point between the exit of the combustion turbine with water injection and the entrance to the SCR system.

(Auth.: HAR §11-60.1-5, §11-60.1-11, §11-60.1-90, §11-60.1-161; 40 CFR 60.335)¹

6. The Department of Health may define specific water-to-fuel injection ratios for which the performance tests will be conducted.

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

7. The Department of Health may waive a specific performance test upon prior written request of the permittee. Such a request would need to be justified on the grounds that prior tests had shown compliance by a wide margin, and that adequate means exist to show continuing compliance.

(Auth.: HAR §11-60.1-3, §11-60.1-90)

8. Performance tests for the emissions of SO₂, NO_x, CO, VOC, PM, CO₂, and NH₃ shall be conducted and results reported in accordance with the test methods set forth in 40 CFR Part 60 Appendix A, and 40 CFR Part 60.8. The following test methods or U.S. EPA-approved equivalent methods, or alternate methods with prior written approval from the Department of Health, shall be used:

- a. Performance tests for the emissions of SO₂ shall be conducted using the 40 CFR Part 60, Methods 1-4 and 20.
- b. Performance tests for the emissions of NO_x shall be conducted using 40 CFR Part 60, Methods 1-4 and 20.
- c. Performance tests for the emissions of CO shall be conducted using 40 CFR Part 60, Methods 1-4 and 10.

- d. Performance tests for the emissions of VOC shall be conducted using 40 CFR Part 60, Methods 1-4 and 25A.
- e. Performance tests for the emissions of particulate matter shall be conducted using 40 CFR Part 60, Methods 1-5.
- f. Performance tests for the emissions of CO₂ shall be conducted using 40 CFR Part 60, Method 20, Equations 20-2 and 20-5.
- g. Performance test for the emissions of NH₃ shall be conducted using U.S. EPA Conditional Test Method 027(CTM-027).

(Auth.: HAR §11-60.1-5, §11-60.1-11, §11-60.1-90, §11-60.1-161; SIP §11-60.15; 40 CFR 60.335)^{1,2}

- 9. The performance test shall consist of three (3) separate runs using the applicable test method. For the purpose of determining compliance with an applicable regulation, the arithmetic mean of the results from the three (3) runs shall apply.

(Auth.: HAR §11-60.1-5, §11-60.1-11, §11-60.1-90, §11-60.1-161; SIP §11-60.15; 40 CFR 60.8)^{1,2}

- 10. The permittee shall demonstrate compliance with the NO_x emission limit specified in 40 CFR 60.332 by using the test methods and procedures of 40 CFR 60.335(b).

(Auth.: HAR §11-60.1-5, §11-60.1-11, §11-60.1-90, §11-60.1-161; 40 CFR 60.335)¹

- 11. **At least thirty (30) calendar days** prior to performing a test, the permittee shall submit a written performance test plan to the Department of Health and U.S. EPA Region 9 that describes the test duration, test locations, test methods, source operation and other parameters that may affect 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 of Health may be grounds to invalidate any test and require a retest.

(Auth.: HAR §11-60.1-5, §11-60.1-11, §11-60.1-90, §11-60.1-161; SIP §11-60.15; 40 CFR 60.8)^{1,2}

- 12. The permittee shall provide sampling and testing facilities at its own expense. The Department of Health may monitor the performance tests.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90; SIP §11-60.15)²

- 13. 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 of Health before the tests.

(Auth.: HAR §11-60.1-11, §11-60.1-90; SIP §11-60.15)²

14. **Within sixty (60) days** after completion of the performance test, the permittee shall submit to the Department of Health and U.S. EPA Region 9 the test report which shall include the operating conditions of the combustion turbine generators at the time of the test, the analysis of the fuel, the summarized test results, and other pertinent field and laboratory data.

(Auth.: HAR §11-60.1-11, §11-60.1-90)

Section H. Agency Notification

Any document (including reports) required to be submitted by this Covered Source Permit shall be done in accordance with Attachment I, Standard Conditions, Condition 28.

(Auth.: HAR §11-60.1-4, §11-60.1-90)

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

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

**ATTACHMENT IIB: SPECIAL CONDITIONS FOR THE DIESEL ENGINES
COVERED SOURCE PERMIT NO. 0007-01-C**

Issuance Date:

Expiration Date: +5 years

In addition to the Standard Conditions of the Covered Source Permit, the following Special Conditions shall apply to the permitted facility:

Section A. Equipment Description

1. This permit encompasses the following equipment and associated appurtenances:
 - a. One (1) 2.5 MW General Motors EMD Model 20-645F4B Diesel Engine Generator, unit no. D21;
 - b. One (1) 2.5 MW General Motors EMD Model 20-645F4B Diesel Engine Generator, unit no. D22;
 - c. One (1) 2.5 MW General Motors EMD Model 20-645E4 Diesel Engine Generator, unit no. D23; and
 - d. One (1) 500 kW Caterpillar Model 3412 Black Start Diesel Engine Generator with an exhaust stack height of 70 feet unit no. BS-1.

(Auth.: HAR §11-60.1-3)

2. The permittee shall permanently attach an identification tag or nameplate on each equipment, which identifies the model no., serial no., and manufacturer. The identification tag or nameplate shall be attached to the equipment at a conspicuous location.

(Auth.: HAR §11-60.1-5)

Section B. Operational and Emission Limitations

1. Operating Hours, Unit BS-1

The maximum operating hours of the black start diesel engine generator, unit no. BS-1, shall not exceed 300 hours in any rolling 12-month period.

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

2. Fuel Consumption Limit, Unit D21

The maximum fuel consumption of diesel engine generator unit no. D21 shall not exceed 70,000 gallons per rolling twelve (12) month period.

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

3. Fuel Injection Timing Retard

Diesel engine generator unit nos. D21, D22, and D23 shall operate with a fuel injection timing retard of 4 degrees at all loads.

The permittee may use an alternate control system upon receiving the Department's written approval to use such a system. The alternate control system shall meet all emission limitations contained within this attachment.

4. Fuel Specifications

The diesel engines shall be fired only on fuel oil no. 2 with a maximum sulfur content not to exceed 0.4 percent by weight, or alternative fuel allowed under Special Condition No. B.7.b of this attachment.

5. Maximum Emission Limit

The diesel engine generators unit nos. D21, D22 and D23 shall not discharge into the atmosphere nitrogen oxides in excess of the following specified limit:

Compound	Maximum Emission Limit (3-hour Average) ^a	
	(lbs/hr)	(ppmvd @ 15 percent O ₂)
Nitrogen Oxides ^b	68.4	600

^aEmission limit per generator.

^bMeasured as nitrogen dioxide (NO₂).

The Department of Health, with U.S. EPA's concurrence, may revise the allowable emission limitation for NO_x after reviewing the annual performance test results required under Section E. of this attachment.

If the NO_x emission limit is revised, the difference between the applicable emission limit set forth above and the revised lower emission limit shall not be allowed as an emission offset for future construction or modification.

6. Opacity Limits

For any six (6) minute averaging period, the diesel engine generators shall not exhibit visible emissions of twenty (20) percent or greater, except as follows: during start-up, shutdown, or equipment breakdown, the diesel engine generators may exhibit visible emissions greater than twenty (20) but not exceeding sixty (60) percent opacity for a period aggregating not more than six minutes (6) in any one hour.

7. Alternate Operating Scenarios

Terms and conditions for reasonably anticipated operating scenarios identified by the permittee in the covered source permit application and approved by the Department of Health are as follows:

- a. Upon receiving written approval from the Department of Health, the permittee may replace any of the permitted diesel engine generators with a temporary replacement unit in the event of a sudden malfunction or a planned major overhaul. The temporary replacement unit shall comply with all applicable permit conditions.

A written request shall be submitted to the Department of Health prior to the exchange and at a minimum, the request shall include the following:

- i. the reason for temporary replacement;
- ii. the removal and estimated return dates of the permitted unit;
- iii. the make, model, serial number, and size of the temporary replacement unit; and
- iv. the emissions data of the permitted and temporary replacement unit.

The Department of Health may require an ambient air quality impact analysis and/or may impose additional requirements on the temporary replacement unit to ensure compliance with the conditions of this permit.

- b. Upon receiving written approval from the Department of Health, the permittee may burn an alternative fuel or fuel additive provided the permittee demonstrates compliance with all applicable State and Federal requirements and applicable conditions of this covered source permit. The burning of the alternative fuel or fuel additive shall not result in an increase in emissions of any air pollutant or in the emission of any air pollutant not previously emitted. As a minimum, the following information must be included with any request to burn an alternate fuel or fuel additive.
 - i. Specific type of fuel or fuel additive;
 - ii. Composition and consumption rate of the fuel;
 - iii. Fuel blending rate;
 - iv. Emissions calculations;
 - v. Ambient air quality analyses verifying that SAAQS will be met;
 - vi. Fuel storage; and
 - vii. Plan to monitor and record the fuel type and consumption.
- c. The permittee shall contemporaneously with making a change from one alternate operating scenario to another, record in a log at the permitted facility the scenario under which it is operating and submit written notification to the Department of Health.
- d. The terms and conditions under each alternate operating scenario shall meet all applicable requirements, including conditions of this permit.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-16.5, §11-60.1-90)

Section C. Monitoring and Recordkeeping Requirements

All records, including support information, shall be maintained for at least five (5) years from the date of the monitoring, measurement, test, report or application. Support information, including all maintenance, inspection and repair records for the diesel engine generators, shall be true, accurate, and maintained in a permanent form suitable for inspection and made available to the Department of Health or their representative upon request.

1. Sulfur Content

The sulfur content (% by weight) of the fuel fired in the diesel engines shall be verified by one of the following methods:

- a. A representative sample of each batch of fuel received shall be analyzed using the most current version of the following American Society for Testing and Materials (ASTM) methods: D129, D2622, D4292, D5453, or D1552; or
- b. A certificate of analysis on the sulfur content shall be obtained from the fuel supplier for each batch of fuel received.

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

2. Operating Hours

The permittee shall operate and maintain a non-resetting hour meter on the black start diesel engine generator, unit no. BS-1, to permanently record the total hours that the unit has operated. Monthly records shall be kept of the beginning and ending meter readings and the total hours that unit no. BS-1 operated during that month. A monthly summary shall include the total hours unit no. BS-1 operated on a monthly and rolling 12-month basis.

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

3. Fuel Consumption, Unit No. D21

The permittee shall operate and maintain a non-resetting volumetric flow meter system on diesel engine generator unit no. D21 for the continuous measurement and recording of the fuel consumed by the diesel engine generator. The flow meter reading shall be recorded at the beginning and end of each calendar month. Records on the total gallons of fuel consumed shall be maintained on a monthly and rolling 12-month basis.

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

4. Inspection, Maintenance, and Repair Log

An inspection, maintenance, and repair log shall be maintained for the diesel engines

covered under this permit. Replacement of parts and repairs to the diesel engines shall be well documented.

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

5. Visible Emissions (V.E.)

- a. The permittee shall conduct **monthly** (*calendar month*) V.E. observations for each equipment subject to opacity limits in accordance with 40 CFR Part 60, Appendix A, Method 9 or by use of a Ringelmann Chart as provided. For each period, two (2) observations shall be taken at fifteen (15) second intervals for six (6) consecutive minutes for each equipment. Records shall be completed and maintained in accordance with the *Visible Emissions Form Requirements*.
- b. The permittee shall conduct **annually** (*calendar year*) V.E. observations for each equipment subject to opacity limits by a certified reader in accordance with 40 CFR Part 60, Appendix A, Method 9. For each period, two (2) observations shall be taken at fifteen (15) second intervals for six (6) consecutive minutes for each equipment. Records shall be completed and maintained in accordance with the *Visible Emissions Form Requirements*.
- c. Upon written request and justification by the permittee, the Department of Health may waive the requirement for a specific annual V.E. 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 continuing compliance, and further that operations of the source have not changed since the previous source test.

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

Section D. 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, §11-60.1-16, §11-60.1-90)
2. The permittee shall report **within five (5) working days** any deviations from the permit requirements, including those attributable to upset conditions, the probable cause of such

deviations and any corrective actions or preventive measures taken. Corrective actions may include a requirement for additional stack testing, or more frequent monitoring, or the 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. **At least thirty (30) days** prior to conducting a source performance test, the permittee shall notify the Department of Health in writing as required by this Attachment, Section E, Testing Requirements.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; SIP §11-60-15)²

4. The permittee shall submit **semi-annually** the following written reports to the Department of Health. 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), and shall include the following:
 - a. Total operating hours of the black start diesel engine generator on a monthly and rolling 12-month basis. The enclosed **Monitoring Report Form: Operating Hours: Black Start Diesel Engine Generator**, or similar form, shall be used.
 - b. The total quantity of fuel consumed by diesel engine generator unit no. D21 on a monthly and rolling 12-month basis. The enclosed **Monitoring Report Form: Fuel Consumption**, or similar form, shall be used.
 - c. Any opacity exceedences as determined by the required V.E. monitoring. Each exceedence reported shall include the date, six (6) minute average opacity reading, possible reason for exceedence, duration of exceedence, and corrective actions taken. If there were no exceedences, the permittee shall submit in writing a statement indicating that for each diesel engine, there were no exceedences for the semi-annual period. The enclosed **Monitoring Report Form: Visible Emission Exceedences**, shall be used.
 - d. Analysis of the sulfur content in the fuel for which there were exceedences of the sulfur content limits specified in Special Condition No. B.4. of this attachment. If there were no exceedences, the permittee shall submit in writing a statement indicating that there were no exceedences of the sulfur content limit for that semi-annual period.
 - e. Any deviations from the permit requirements shall be clearly identified. At a minimum, a summary of each deviation shall include a description of the deviation, the reason for the deviation, the duration, and the corrective actions taken.

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

5. Compliance Certification

During the permit term, the permittee shall submit at least **annually** to the Department of Health and U.S. EPA Region 9, the attached **Compliance Certification Form** pursuant to HAR, Subsection 11-60.1-86. The permittee shall indicate whether or not compliance is being met with each term or condition of this permit. The compliance certification shall include at a minimum the following information:

- 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; and
- f. Any additional information as required by the Department of Health including information to determine compliance.

The compliance certification shall be submitted **within ninety (90) days after** the end of each calendar year, and shall be signed and dated by an authorized representative.

Upon written request of the permittee, the deadline for submitting the compliance certification may be extended, if the Department of Health determines that reasonable justification exists for the extension.

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

6. Annual Emissions

As required by Attachment IV and in conjunction with the requirements of Attachment III, Annual Fee Requirements, the permittee shall report **annually** the total tons/yr 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 Forms, shall be used.

Upon the written request of the permittee, the deadline for reporting of annual emissions may be extended, if the Department of Health determines that reasonable justification exists for the extension.

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

Section E. Testing Requirements

1. **On an annual basis** or at such other times as may be specified by the Department of Health, the permittee shall conduct or cause to be conducted performance tests on the diesel engine generators unit nos. D21, D22, and D23 at maximum load for nitrogen oxides (NO_x as NO₂).

(Auth.: HAR §11-60.1-3, §11-60.1-90)

2. Performance tests for the emissions of NO_x (as NO₂) shall be conducted and results reported in accordance with the test methods set forth in 40 CFR Part 60 Appendix A, and 40 CFR Part 60.8. The performance tests for the emissions of NO_x (as NO₂) shall be conducted using 40 CFR Part 60 Methods 1-4 and 7 or U.S. EPA-approved equivalent methods, or alternate methods with prior written approval from the Department of Health.

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

3. The performance test shall consist of three (3) separate runs using the applicable test method. For the purpose of determining compliance with an applicable regulation, the arithmetic mean of the results from the three (3) runs shall apply.

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

4. The permittee shall provide sampling and testing facilities at its own expense. The tests shall be conducted at the maximum load of the diesel engine generators and the Department of Health may monitor the tests.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90; SIP §11-60-15)²

5. **At least 30 calendar days** prior to performing a test, the permittee shall submit a written performance test plan to the Department of Health that describes the test duration, test locations, test methods, source operation and other parameters that may affect 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 of Health may be grounds to invalidate any test and require a retest.

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

6. 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 of Health before the tests.

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

7. **Within sixty (60) days** after completion of the performance test, the permittee shall submit to the Department of Health and U.S. EPA Region 9 the test report which shall include the operating conditions of the diesel engine generators at the time of the test, the analysis of the fuel, the summarized test results, comparative results with the permit emission limits, and other pertinent field and laboratory data.

(Auth.: HAR §11-60.1-3, §11-60.1-11, §11-60.1-90; SIP §11-60-15)²

8. The Department of Health may waive a specific performance test upon prior written request of the permittee. Such a request would need to be justified on the grounds that prior tests had shown compliance by a wide margin, and that adequate means exist to show continuing compliance.

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

Section F. Agency Notification

Any document (including reports) required to be submitted by this permit shall be done in accordance with Attachment I, Standard Condition 28.

(Auth.: HAR §11-60.1-4, §11-60.1-90)

¹The citations to the Code of Federal Regulations (CFR) identified under a particular condition, indicate that the permit condition complies with the specified provision(s) of the CFR. Due to the integration of the pre-construction and operating permit requirements, permit conditions may incorporate more stringent requirements than those set forth in the CFR.

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

**ATTACHMENT II-INSIG: SPECIAL CONDITIONS FOR INSIGNIFICANT ACTIVITIES
COVERED SOURCE PERMIT NO. 0007-01-C**

Issuance Date:

Expiration Date: +5 years

In addition to the Standard Conditions of the Covered Source Permit, the following Special Conditions shall apply to the permitted facility:

In addition to the Standard Conditions of the Covered Source Permit, the following Special Conditions shall apply to the permitted facility:

Section A. Equipment Description

This attachment encompasses insignificant activities listed in HAR, §11-60.1-82(f) and (g) for which provisions of this permit and HAR, Subchapter 2, General Prohibitions apply.

(Auth.: HAR §11-60.1-3)

Section B. Operational Limitations

1. The permittee shall take measures to operate applicable insignificant activities in accordance with the provisions of HAR, Subchapter 2 for visible emissions, 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 of Health 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 of Health 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 in a permanent form suitable for inspection and made available to the Department of Health or their 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

1. During the permit term, the permittee shall submit at least **annually** to the Department of Health and U.S. EPA Region 9, the attached **Compliance Certification Form** pursuant to HAR, Subsection 11-60.1-86. The permittee shall indicate whether or not compliance is being met with each term or condition of this permit. The compliance certification shall include at a minimum the following information:
 - 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; and
 - f. Any additional information as required by the Department of Health including information to determine compliance.

In lieu of addressing each emission unit as specified in the attached 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.

2. The compliance certification shall be submitted **within ninety (90) days** after the end of each calendar year, and shall be signed and dated by a responsible official.
3. Upon written request of the permittee, the deadline for submitting the compliance certification may be extended, if the Department of Health determines that reasonable justification exists for the extension.

(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 Covered Source Permit 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. 0007-01-C**

Issuance Date:

Expiration Date:

The following requirements for the submittal of annual fees are established pursuant to Hawaii Administrative Rules (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 sixty days after the end of each calendar year; and
 - b. Within thirty days after the permanent discontinuance of the covered source.
2. The annual fees shall be determined and submitted in accordance with Hawaii Administrative Rules, Chapter 11-60.1, Subchapter 6.
3. The annual emissions data for which the annual fees are based shall accompany the submittal of any annual fees and submitted on forms furnished by the Department of Health.
4. The annual fees and the emission data shall be mailed to:

**Clean Air Branch
Environmental Management Division
Hawaii Department of Health
P.O. Box 3378
Honolulu, HI 96801-3378**

PROPOSED

ATTACHMENT IV: ANNUAL EMISSIONS REPORTING REQUIREMENTS COVERED SOURCE PERMIT NO. 0007-01-C

Issuance Date:

Expiration Date:

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

1. Complete the attached forms:

Annual Emissions Report Form: *Combustion Turbines*;
Annual Emissions Report Form: *Ammonia Slip*; and
Annual Emissions Report Form: *Diesel Engines*.

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

**Clean Air Branch
Environmental Management Division
Hawaii Department of Health
P. O. Box 3378
Honolulu, HI 96801-3378**

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

**ANNUAL EMISSIONS REPORT FORM
COMBUSTION TURBINES
COVERED SOURCE PERMIT NO. 0007-01-C**

Issuance Date: _____

Expiration Date: _____

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

For Period: _____ Date: _____

Facility Name: HELCO Keahole Generating Station

Equipment Description: 20 MW General Electric LM2500 Combustion Turbine

Serial/ID No.: _____

Responsible Official (Print): _____

Title: _____

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 (Signature): _____

Type of Fuel Fired	Fuel Usage (Gallons)	% Sulfur Content by weight	% Nitrogen Content by weight
Fuel Oil No. 2			

Type of Air Pollution Control	In Use?	Pollutant(s) Controlled	Control Efficiency, % Reduction
<u>Water Injection</u>	<u>Yes or No</u>	<u>NO_x</u>	_____
<u>SCR</u>	<u>Yes or No</u>	<u>NO_x</u>	_____
_____	<u>Yes or No</u>	_____	_____

**ANNUAL EMISSIONS REPORT FORM
AMMONIA SLIP
COVERED SOURCE PERMIT NO. 0007-01-C**

Issuance Date:

Expiration Date:

In accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, the permittee shall report to the Department of Health the nature and amounts of emissions, semi-annually.

For Period: _____ Date: _____

Facility Name: HELCO Keahole Generating Station

Equipment Description: Selective Catalytic Reduction System

Serial/ID No.: Operating with unit CT-4/CT-5

Responsible Official (Print): _____

Title: _____

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 (Signature): _____

Month	Ammonia Slip (lbs)	Method Used to Calculate Ammonia Slip
January		
February		
March		
April		
May		
June		
July		
August		
September		
October		
November		
December		
TOTAL		

PROPOSED

**ANNUAL EMISSIONS REPORT FORM
DIESEL ENGINES
COVERED SOURCE PERMIT NO. 0007-01-C**

Issuance Date: _____

Expiration Date: _____

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

For Period: _____ Date: _____

Facility Name: HELCO Keahole Generating Station

Equipment Description: 2.5 MW General Motors EMD DEG

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. 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.

Responsible Official (PRINT): _____

Title: _____

Responsible Official (Signature): _____

2.5 MW kilowatt rating

Unit No./f Fuel Fired	Fuel Usage Gallons per year	% Sulfur Content by weight
D21/Fuel Oil No. 2		
D22/Fuel Oil No. 2		
D23/Fuel Oil No. 2		
BS-1/Fuel Oil No. 2		

<u>Type of Air Pollution Control</u>	<u>In Use?</u>	<u>Pollutant(s) Controlled</u>	<u>Control Efficiency, % reduction</u>
_____	<u>Yes or No</u>	_____	_____
_____	<u>Yes or No</u>	_____	_____
_____	<u>Yes or No</u>	_____	_____

**MONITORING REPORT FORM
OPERATING HOURS: BLACK START DIESEL ENGINE GENERATOR
COVERED SOURCE PERMIT NO. 0007-01-C**

Issuance Date: _____

Expiration Date: _____

In accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, the permittee shall report to the Department of Health the following information **semi-annually**:

For Period: _____ Date: _____

Facility Name: HELCO Keahole Generating Station

Equipment Description: 500 kW Caterpillar Model 3412 Black Start Diesel Engine Generator, BS-1

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. 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.

Responsible Official (PRINT): _____

Title: _____

Responsible Official (Signature): _____

BLACK-START DIESEL ENGINE GENERATOR

Month	Operating Hours		Notes
	Monthly Total	Rolling 12- Month Total	
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			
TOTAL			

**MONITORING REPORT FORM
DAILY START-UP AND SHUTDOWN
COMBUSTION TURBINE GENERATOR, UNIT NO. CT-4
COVERED SOURCE PERMIT NO. 0007-01-C**

Issuance Date: _____

Expiration Date: _____

For Month: _____ Year: _____

Facility Name HELCO Keahole Generating Station

Equipment Description: 20 MW General Electric LM2500 Combustion Turbine

Responsible Official (PRINT): _____

Title: _____

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 (Signature): _____

Combustion Turbine Generator Unit No. CT-4								
Day	"Start-up"				"Shut-down"			Turbine Daily Operating Hours
	Start Time	End Time	Duration ¹	Turbine Load at APC ² Initiation (MW)	Start Time	End Time	Turbine Load at ACP ² Shutdown (MW)	
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								

¹Log duration in "Minutes"

²APC = Air Pollution Control

Combustion Turbine Generator Unit No. CT-4								
Day	"Start-up"				"Shut-down"			Turbine Daily Operating Hours
	Start Time	End Time	Duration ¹	Turbine Load at APC ² Initiation (MW)	Start Time	End Time	Turbine Load at ACP ² Shutdown (MW)	
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
TOTAL MONTHLY HOURS:								

¹Log duration in "Minutes"

²APC = Air Pollution Control

**MONITORING REPORT FORM
DAILY START-UP AND SHUTDOWN
COMBUSTION TURBINE GENERATOR, UNIT NO. CT-5
COVERED SOURCE PERMIT NO. 0007-01-C**

Issuance Date: _____

Expiration Date: _____

For Month: _____ Year: _____

Facility Name: HELCO Keahole Generating Station

Equipment Description: 20 MW General Electric LM2500 Combustion Turbine

Responsible Official (PRINT): _____

Title: _____

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 (Signature): _____

Combustion Turbine Generator Unit No. CT-5								
Day	"Start-up"				"Shut-down"			Turbine Daily Operating Hours
	Start Time	End Time	Duration ¹	Turbine Load at APC ² Initiation (MW)	Start Time	End Time	Turbine Load at ACP ² Shutdown (MW)	
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								

¹Log duration in "Minutes"

²APC = Air Pollution Control

Combustion Turbine Generator Unit No. CT-5								
Day	"Start-up"				"Shut-down"			Turbine Daily Operating Hours
	Start Time	End Time	Duration ¹	Turbine Load at APC ² Initiation (MW)	Start Time	End Time	Turbine Load at ACP ² Shutdown (MW)	
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
TOTAL MONTHLY HOURS:								

¹Log duration in "Minutes"

²APC = Air Pollution Control

**MONITORING REPORT FORM
FUEL CONSUMPTION - DIESEL ENGINE GENERATOR
COVERED SOURCE PERMIT NO. 0007-01-C**

Issuance Date: _____

Expiration Date: _____

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

For Period: _____ Date: _____

Facility Name: HELCO Keahole Generating Station

Equipment Description: 2.5 MW General Motors Diesel Engine Generator

Serial/ID No.: Unit D21

Type of Fuel: Fuel Oil No. 2 %Sulfur Content by Weight: _____

Responsible Official (Print): _____

Title: _____

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 (Signature): _____

Month	Monthly Fuel Consumption (gallons)	Rolling 12-Month Total (gallons)	Notes
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			

**MONITORING REPORT FORM
FUEL CERTIFICATION
COVERED SOURCE PERMIT NO. 0007-01-C**

Issuance Date: _____

Expiration Date: _____

In accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, the permittee shall report to the Department of Health the nature of fuel used for the permitted equipment.

For Period: _____ Date: _____

Facility Name: Hawaii Electric Light Co.

Equipment Location: Keahole Generating Station

Responsible Official (Print): _____

Title: _____

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 (Signature): _____

Unit No.	Equipment Description	Fuel Fired	Sulfur Content ¹	Nitrogen Content ²
CT-4	20 MW Combustion Turbine	Fuel Oil No. 2		
CT-5	20 MW Combustion Turbine	Fuel Oil No. 2		
D-21	2.5 MW General Motors EMD DEG	Fuel Oil No. 2		
D-22	2.5 MW General Motors EMD DEG	Fuel Oil No. 2		
D-23	2.5 MW General Motors EMD DEG	Fuel Oil No. 2		
BS-1	500 kW Caterpillar Black Start DEG	Fuel Oil No. 2		

1 - Report the maximum sulfur content (% by weight) recorded during the reporting period.

2 - Report the average nitrogen content (% by weight) for the reporting period.

List means and methods used to determine the sulfur content.

List means and methods used to determine the nitrogen content.

EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE

SUMMARY REPORT

(PAGE 1 OF 2)

(Make copies for Future Use)

Facility Name: HELCO Keahole Generating Station

Equipment Location: Keahole Generating Station, Keahole, Hawaii

Equipment Description:

Covered Source Permit No.: CSP No. 0007-01-C Condition

No.:

PSD Permit No.: Condition No.:

Code of Federal Regulations (CFR):

Pollutant Monitored:

From: Date - Time

To: Date - Time

Emission Limit:

Date of Last CEMS Certification/Audit

Total Source Operating Time

EMISSION DATA SUMMARY

- 1. Duration (Hours/Periods) of Excess Emissions in Reporting Period due to:
a. Start-Up/Shutdown
b. Cleaning/Soot Blowing
c. Control Equipment Failure
d. Process Problems
e. Other Known Causes
f. Unknown Causes
g. Fuel Problems
Number of incidents of excess emissions
2. Total Duration of Excess Emissions
3. Total Duration of Excess Emissions (% of Total Source Operating Time)

CEMS PERFORMANCE SUMMARY

- 1. CEMS Downtime (Hours/Periods) in Reporting Period Due to:
a. Monitor Equipment Malfunctions
b. Non-Monitor Equipment Malfunctions
c. Quality Assurance Calibration
d. Other Known Causes
e. Unknown Causes
Number of incidents of monitor downtime.
2. Total CEMS Downtime
3. Total CEMS Downtime (% of Total Source Operating Time)

**EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE
SUMMARY REPORT**

(PAGE 2 OF 2)

CERTIFICATION by Responsible Official

Responsible Official (Print): _____

Title: _____

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 (Signature): _____

**VISIBLE EMISSIONS FORM REQUIREMENTS
STATE OF HAWAII
COVERED SOURCE PERMIT NO. 0007-01-C**

Issuance Date:

Expiration Date:

The following Visible Emissions (V.E.) Form shall be completed **monthly** (*each calendar month*) for each equipment subject to opacity limits in accordance with Method 9 or by use of a Ringelmann Chart as provided. At least **annually** (*calendar year*), V.E. observations shall be conducted for each equipment subject to opacity limits by a certified reader in accordance with Method 9. The V.E. Form shall be completed as follows:

1. Visible emissions observations shall take place during the day only and shall be compared to the Ringelmann Chart provided. The opacity shall be noted in 5 percent increments (i.e., 25%).
2. Orient the sun within a 140 degree sector to your back. Provide a source layout sketch on the V.E. Form using the symbols as shown.
3. Stand at least three (3) stack heights, but not more than a quarter mile from the stack.
4. Two (2) observations shall be taken at fifteen (15) second intervals for six (6) consecutive minutes for each equipment.
5. The six (6) minute average opacity reading shall be calculated for each observation.
6. 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 maximum permitted capacity.
7. 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 V.E. Forms for recordkeeping. These records shall be in a permanent form suitable for inspection, retained for a minimum of five (5) years, and made available to the Department of Health, or their representative upon request.

**VISIBLE EMISSIONS FORM
STATE OF HAWAII
COVERED SOURCE PERMIT NO. 0007-01-C**

Issuance Date: _____

Expiration Date: _____

Permit No.: 0007-01-C

Company Name: HELCO Keahole Generating Station

Equipment and Fuel: _____

Site Conditions:

Stack height above ground (ft): _____

Stack distance from observer (ft): _____

Emission color: black / white

Sky conditions (% cloud cover): _____

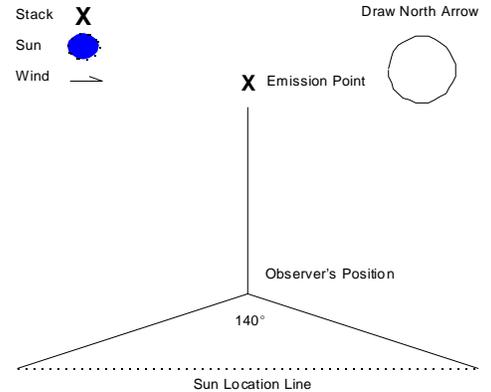
Wind speed (mph): _____

Temperature (EF): _____

Observer Name: _____

Certified?: Yes / No

Observation Date and Time: _____



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

Observation Date and Start Time: _____

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

**COMPLIANCE CERTIFICATION FORM
COVERED SOURCE PERMIT NO. 0007-01-C
PAGE 1 OF ____**

Issuance Date: _____

Expiration Date: _____

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

(Make Copies of the Compliance Certification Form 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 Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, and any permit issued thereof.

**COMPLIANCE CERTIFICATION FORM
COVERED SOURCE PERMIT NO. 0007-01-C
(CONTINUED, PAGE 2 OF ___)**

Issuance Date:

Expiration Date:

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

Instructions:

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

A. Attachment I, Standard Conditions

<u>Permit term/condition</u> All standard conditions	<u>Equipment(s)</u> All Equipment(s) listed in the permit	<u>Compliance</u> Continuous Intermittent
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B. Special Conditions - Monitoring, Recordkeeping, Reporting, Testing, and INSIG

<u>Permit term/condition</u> All monitoring conditions	<u>Equipment(s)</u> All Equipment(s) listed in the permit	<u>Compliance</u> Continuous Intermittent
<u>Permit term/condition</u> All recordkeeping conditions	<u>Equipment(s)</u> All Equipment(s) listed in the permit	<u>Compliance</u> Continuous Intermittent
<u>Permit term/condition</u> All reporting conditions	<u>Equipment(s)</u> All Equipment(s) listed in the permit	<u>Compliance</u> Continuous Intermittent
<u>Permit term/condition</u> All testing conditions	<u>Equipment(s)</u> All Equipment(s) listed in the permit	<u>Compliance</u> Continuous Intermittent
<u>Permit term/condition</u> All INSIG conditions	<u>Equipment(s)</u> All Equipment(s) listed in the permit	<u>Compliance</u> Continuous Intermittent

**COMPLIANCE CERTIFICATION FORM
COVERED SOURCE PERMIT NO. 0007-01-C
(CONTINUED, PAGE ____ OF ____)**

Issuance Date:

Expiration Date:

C. Special Conditions - Operational and Emissions Limitations

Each permit term/condition shall be identified in chronological order using attachment and section numbers (e.g., Attachment II, 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.

<u>Permit term/condition</u>	<u>Equipment(s)</u>	<u>Method</u>	<u>Compliance</u>
		monitoring recordkeeping reporting testing none of the above	Continuous Intermittent
		monitoring recordkeeping reporting testing none of the above	Continuous Intermittent
		monitoring recordkeeping reporting testing none of the above	Continuous Intermittent
		monitoring recordkeeping reporting testing none of the above	Continuous Intermittent
		monitoring recordkeeping reporting testing none of the above	Continuous Intermittent
		monitoring recordkeeping reporting testing none of the above	Continuous Intermittent
		monitoring recordkeeping reporting testing none of the above	Continuous Intermittent
		monitoring recordkeeping reporting testing none of the above	Continuous Intermittent

(Make Additional Copies if Needed)

**COMPLIANCE CERTIFICATION FORM
[TEMPORARY] COVERED SOURCE PERMIT NO.
(CONTINUED, PAGE ___ OF ___)**

Issuance Date:

Expiration Date:

D. Deviations

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

(Make Additional Copies if Needed)