PROPOSED

ISSUE DATE

CERTIFIED MAIL 07-E CAB
RETURN RECEIPT REQUESTED File No. 0649-01
0

Mr. Mark Warner
Vice President Engineering
Imperium Renewables, LLC
1714 First Avenue South
Seattle, Washington 98134

Dear Mr. Warner:

Subject: Covered Source Permit (CSP) No. 0649-01-C
Initial Covered Source Permit Application No. 0649-01
Imperium Renewables, LLC
100 Million Gallon per Year Biodiesel Facility
Location: Along Malakole Road, Kalaeloa Barbers Point Harbor, Oahu
UTM – 591,580 Meters East and 2,357,800 Meters North, Zone 4 (NAD-27)
Date of Expiration: 5 YEARS FROM ISSUE

The subject covered source permit is issued in accordance with Hawaii Administrative Rules (HAR), Title 11, Chapter 60.1. The issuance of this permit is based on the plans, specifications, and information that you submitted as part of your application received on May 15, 2007, and the additional information as part of your application received on May 16 and 25, June 7 and 25, July 1, 2, 3, 9, 12, 13, 16, 18, 20, 23, and 30, August 1, 7, and 10, September 5, 7, 10, 12, 25, and 28, October 16 and 29, and November 13, 2007.

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 – Combustion Equipment
Attachment IIB: Special Conditions – Storage Tanks
Attachment IIC: Special Conditions – SOCMI Miscellaneous Equipment
Attachment IID: Special Conditions – SOCMI Reactor Equipment
Attachment IIE: Special Conditions – SOCMI Distillation Equipment
Attachment II - INSIG: Special Conditions for Insignificant Activities
Attachment III: Annual Fee Requirements
Attachment IV: Annual Emissions Reporting Requirements

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

Compliance Certification Form
Annual Emissions Report Form – Combustion Equipment
Annual Emissions Report Form – Equipment Leaks
Monitoring Report Form – Thermal Fluid Heater Firing Rate
Monitoring Report Form – Secondary Control Device
Monitoring Report Form – Combustion Equipment Fuel Sulfur Content
Monitoring Report Form – Combustion Equipment Methanol Emissions
Monitoring Report Form – Equipment Leak Methanol Emissions
Monitoring Report Form – Facility Methanol Emissions
Monitoring Report Form – SOCMI Miscellaneous Equipment
Monitoring Report Form – SOCMI Reactor and Distillation Equipment
Monitoring Report Form – Opacity Exceedances

The following are for use in visible emissions monitoring:

Visible Emissions Form Requirements State of Hawaii
Visible Emissions Form
The Ringelmann Chart

Alternatively, equivalent electronically generated forms for all forms except the Compliance Certification Form, may be submitted for monitoring and annual emissions reporting.

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

MM:se

Enclosures

c: CAB Monitoring Section

ATTACHMENT I: STANDARD CONDITIONS
COVERED SOURCE PERMIT NO. 0649-01-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:

    a. The **anticipated date of initial start-up** for each emission unit of a new source or significant modification not more than sixty (60) days or less than thirty (30) days prior to such date;

b. The **actual date of construction commencement** within fifteen (15) days after such date; and
c. The **actual date of start-up** within fifteen (15) days after such date.

(Auth.: HAR §11-60.1-90)

15. The permittee shall furnish, in a timely manner, any information or records requested in writing by the Department 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:

    a. Identification of the specific equipment to be taken out of service, as well as its location and permit number;
    b. The expected length of time that the air pollution control equipment will be out of service;
    c. The nature and quantity of emissions of air pollutants likely to be emitted during the shutdown period;
    d. Measures such as the use of off-shift labor and equipment that will be taken to minimize the length of the shutdown period; and
    e. The reasons why it would be impossible or impractical to shut down the source operation during the maintenance period.

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

17. **Except for emergencies which result in noncompliance with any technology-based emission limitation in accordance with HAR, Section 11-60.1-16.5, in the event any emission unit, air pollution control equipment, or related equipment malfunctions or breaks down in such a manner as to cause the emission of air pollutants in violation of HAR, Chapter 11-60.1 or this permit**, the permittee shall immediately notify the Department of 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:**

PROPOSED

Clean Air Branch
Environmental Management Division
State of 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.

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

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

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

ATTACHMENT IIA: SPECIAL CONDITIONS – COMBUSTION EQUIPMENT
COVERED SOURCE PERMIT NO. 0649-01-C

Issuance Date: **Expiration Date:**

In additon to the standard conditions of the covered source permit, the following special conditions shall apply to the permitted facility:

Section A. Equipment Description

1. Attachment IIA of this permit encompasses the following combustion equipment and associated appurtenances:

   a. Two (2) 38 MMBtu/hr American Heating Company, Inc. thermal fluid heaters, model nos. AHE-3000-DF, with multi-fuel, high-ash compatible, low-NO_X burner, and one (1) 50 feet high x 5 feet diameter exhaust stack servicing the two thermal fluid heaters.

   b. Either one of the following units selected as a secondary control device after permit issuance:

      1) John Zink thermal oxidizer, model no. ZCT-2-8-35-2/8-X-X-W/6, with 30 feet high x 6 feet diameter exhaust stack.
      2) A.H. Lundberg Associates, Inc. incineration system, with 30 feet high x 30 inch diameter exhaust stack.

   (Auth.: HAR §11-60.1-3)

2. An identification tag or name plate shall be displayed on the John Zink thermal oxidizer, if selected as a secondary control device, and each thermal fluid heater which identifies the model no., serial no., and manufacturer. An identification tag or name plate shall be displayed on the A.H. Lundberg Associate, Inc. incineration system, if selected as a secondary control device, that identifies the manufacturer. The identification tag or name plate shall be permanently attached to the equipment at a conspicuous location.

   (Auth.: HAR §11-60.1-5)

Section B. Applicable Federal Regulations

1. The thermal fluid heaters are subject to the standard provisions of the following federal regulations:

   a. 40 CFR, Part 60, Standards of Performance for New Stationary Sources, Subpart – A, General Provisions.

   b. 40 CFR, Part 60, Standards of Performance for New Stationary Sources, Subpart – Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR §60.1, §60.40c)[1]

2. The combustion equipment and associated appurtenances are subject to the (VOC) volatile organic compound control requirements of the following federal regulations:

   a. 40 CFR, Part 60, Standards of Performance for New Stationary Sources, Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984.

   b. 40 CFR, Part 60, Standards of Performance for New Stationary Sources, Subpart NNN – Standards of Performance for VOC Emissions From (SOCMI) Synthetic Organic Chemical Manufacturing Industry Distillation Operations.

   c. 40 CFR, Part 60, Standards of Performance for New Stationary Sources, Subpart RRR – Standards of Performance for VOC Emissions From SOCMI Reactor Processes.

   (Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR, §60.1, §60.112b(3)ii, §60.482-10(c), §60.662(a), 60.702(a))[1]

3. 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 the special conditions of this permit.

   (Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161)

Section C. Operational Limitations and Standards

1. Fuel Limits

   a. The combustion equipment shall only be fired on one or a combination of the following fuels:

      1) Fuel oil No. 2 with a maximum sulfur content not to exceed 0.05% by weight;

      2) Biodiesel meeting American Society for Testing and Materials (ASTM) D6751 with a maximum sulfur content not to exceed 0.05% by weight; and

      3) VOC/methanol gas vented from process equipment and storage tanks.

   b. The total combined thermal fluid heater firing rate shall not exceed 525,600 MMBtu in any rolling twelve-month (12-month) period based on each fuel's higher heating value (HHV) in Btu/lb and pounds of each fuel fired.

   (Auth.: HAR §11-60.1-3, §11.60.1-5, §11-60.1-38, §11-60.1-90, §11-60.1-161; 40 CFR, §60.42c(d), §60.42c(e)(2))[1]

2. Emission Limits

   a. The total organic compound (TOC) emission rate (less methane and ethane) from each vent stream routed to the combustion equipment shall be reduced by at least 98% by weight, or to a TOC concentration not to exceed 20 ppmv on a dry basis corrected to 3 percent oxygen, whichever is less stringent. For compliance with the TOC emissions limit using the thermal fluid heaters, the vent stream gas shall be introduced into the flame zone of each thermal fluid heater.

   b. The total combined methanol emissions from the combustion equipment shall not cause the facility to exceed 9.9 tons per year of any single hazardous air pollutant (HAP) in any rolling twelve-month (12-month) period. Methanol emissions from the combustion equipment shall be based on the total combined methanol loading to the units in tons and each unit's methanol reduction efficiency identified by the most recent performance test.

   c. The thermal fluid heaters shall not discharge into the atmosphere any gases that contain particulate matter (PM) in excess of 0.03 lb/MMBtu heat input. The PM emission limit applies at all times, except during periods of startup, shutdown, or malfunction.

   (Auth.: HAR §11-60.1-3, §11.60.1-5, §11-60.1-90, §11-60.1-161; 40 CFR, §60.43c(e), §60.112b(3)ii, §60.662(a), 60.702(a))[1]

3. Hour Limit

   The total operating hours of the secondary control device shall not exceed 2,000 hours in any rolling twelve-month (12-month) period.

4. Operation

   At least one combustion unit shall be fully functional and operational at all times for controlling TOC emissions from process equipment and storage tanks.

   (Auth.: HAR §11-60.1-3, §11.60.1-5, §11-60.1-90, §11-60.1-161; 40 CFR, §60.112b(3)ii, §60.662(a), 60.702(a))[1]

5. Opacity Limits

   a. The permittee shall not cause the discharge into the atmosphere, emissions from the thermal fluid heaters that exhibit greater than twenty (20) percent opacity (six (6)-minute average), except for one six (6)-minute period per hour of not more than twenty seven (27) percent opacity. The opacity limits shall apply at all times, except during periods of startup, shutdown, or malfunction.

   b. For any six (6) minute averaging period, the secondary control device shall not exhibit visible emissions of twenty (20) percent or greater, except as follows: during startup,

shutdown, or equipment breakdown, the secondary control device may exhibit visible emissions greater than twenty (20) but not exceeding (60) percent opacity for a period aggregating not more than six (6) minutes in any sixty (60) minutes.

(Auth.: HAR §11-60.1-3, §11.60.1-32, §11-60.1-90, §11-60.1-161; 40 CFR §60.43c)[1]

6. Maintenance

   The combustion equipment shall be properly maintained and kept in good operating condition at all times with scheduled inspection and maintenance as recommended by the manufacturer and as needed.

   (Auth.: HAR §11-60.1-3, §11.60.1-5, §11-60.1-90)

7. Additional Requirements

   a. The Department of Health reserves the right to require the permittee to determine the cause of any odor nuisance from the facility and require additional operational controls, performance testing, emission limits, or restrictions to mitigate odor nuisances.

   b. The Department of Health reserves the right to impose additional operational controls, emission limits, and restrictions if performance testing indicates that additional controls and/or restrictions are necessary.

   c. The Department of Health may establish permit limits for the combustion equipment operating parameters after review of monitoring records.

   (Auth.: HAR §11.60.1-3, §11.60.1-5, §11-60.1-90)

Section D. Monitoring and Record keeping Requirements

1. Records

   All records, including support information, shall be maintained at the facility for **at least five (5) years** from the date of the monitoring samples, measurements, tests, reports, or applications. Support information includes all maintenance, inspection, and repair records, and copies of all reports required by this permit. These records shall be true, accurate, and maintained in a permanent form suitable for inspection and made available to the Department of Health or its representative(s) upon request.

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

2. Hour Limit

   a. A non-resetting hour meter shall be installed, operated, and maintained for the secondary combustion/control device to determine the total hours of operation for purposes of the hour limit specified in Attachment IIA, Special Condition No. C.3.

b. Monthly records of the beginning hour meter reading shall be maintained for the secondary combustion/control device. The total hours of operation shall be determined and recorded on a monthly and 12-month rolling basis.

3. Combustion Temperature

For VOC control of vent stream gas, the combustion equipment shall be equipped with a thermocouple in the firebox equipped with a continuous recorder and having an accuracy of ± 1 percent of the temperature being monitored in degrees Celsius or ± 0.5 ^{O}C, whichever is greater for measuring combustion temperature. The minimum thermal fluid heater combustion temperature for all 3-hour operating periods prior to the initial performance test shall be 900 ^{O}F to ensure proper combustion efficiency. The minimum secondary control device combustion temperature for all 3-hour operating periods prior to the initial performance test shall be 1,200 ^{O}F. Deviations from the minimum combustion temperature as determined in Attachments IID and IIE, Special Condition No. D.3.b.2 shall be reported in accordance with Attachments IID and IIE, Special Condition No. E.3.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90; 40 CFR, §60.48c, §60.663, §60.703)[1]

4. Vent Stream

a. The flow indicator that provides a record of vent stream gas flow diverted from being routed to each combustion unit from reactor equipment shall be in accordance with Attachment IID, Special Condition Nos. D.2.a.1 and D.2.a.2.

b. The flow indicator that provides a record of vent stream gas flow to each combustion unit from distillation equipment shall be in accordance with Attachment IIE, Special Condition No. D.2.a.

c. Vent stream parameter deviations shall be reported in accordance with Attachments IID and IIE, Special Condition No. E.3.

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

5. Methanol Gas Consumption

An inline sensor measuring flow rate, temperature, and pressure shall be installed, operated, and maintained to allow determination, based on engineering principles and process knowledge, the total amount (pounds and tons) of methanol gas fired by each combustion unit for purposes of annual emissions reporting, the requirements of 40 CFR §60.48c(g) for the thermal fluid heaters, and the limits specified in Attachment IIA, Special Condition Nos. C.1.b and C.2.b. The sensor shall be installed after the recovery system and prior to the combustion/control equipment inlet.

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

6. Fuel Oil No. 2/Biodiesel Consumption

   A non-resetting totalizing fuel flow meter shall be installed, operated, and maintained on the fuel oil No. 2 and biodiesel lines for each combustion unit to determine the total amount (pounds and gallons) of each fuel fired by the equipment for purposes of annual emissions reporting, the requirements of 40 CFR §60.48c(g) for the thermal fluid heaters, and the fuel limit specified in Attachment IIA, Special Condition No. C.1.b.

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

7. Fuel Sulfur Content and HHV

   The sulfur content and HHV of fuel oil No. 2, biodiesel, and process/tank vent stream gas fired by the combustion equipment shall be determined from fuel supplier certifications or by fuel analysis. The data from fuel analysis and supplier certifications shall be representative of each fuel fired by the equipment. Fuel oil supplier certifications shall include the name of the oil supplier and a statement from the oil supplier that the oil complies with the specifications under the definition of a distillate oil in 40 CFR §60.41c. Biodiesel supplier certifications shall include the name of the fuel supplier and a statement from the supplier that the fuel complies with ASTM D6751. For the fuel analysis, fuel oil No. 2 and biodiesel shall be analyzed to determine compliance with the applicable fuel specifications and sulfur limits as specified in this permit. The methanol gas fuel analysis shall be performed on a vent stream gas sample collected at a VOC control device inlet during the performance test. The sulfur content determined in the vent stream gas during the performance test shall be used as a constant value to estimate annual SO_2 emissions from the combustion equipment. The HHV of the vent stream gas shall be continuously calculated using engineering principles and data from the inline flow sensor.

   (Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90; 40 CFR §60.41c, §60.48c)[1]

8. Inspection, Maintenance, and Repair Log

   An inspection, maintenance, and repair log shall be maintained for the combustion equipment. At a minimum, these records shall include the date of the inspection/work, name and title of person performing the inspection/work, a short description of the inspection/work, and a description of the part(s) inspected or repaired.

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

9. Visible Emissions (V.E.)

   a. Except in those months when V.E. observations are conducted by a certified reader for the annual observation of the combustion equipment, the permittee shall conduct monthly (calendar month), V.E. observations in accordance with Method 9 or by use of a Ringelmann Chart as provided. For each month, two (2) consecutive six (6) minute observations shall be taken at fifteen (15) second intervals. The V.E. observations to determine opacity shall be performed for the operating scenario at the time of conducting the monthly V.E. observations (e.g., one thermal fluid heater operating, simultaneous operation of two units, secondary control device operating only, firing

biodiesel, firing fuel oil No. 2, etc). Records shall be completed and maintained in accordance with the Visible Emission Form requirements.

b. The permittee shall conduct annually (calendar year), V.E. observations of the opacity from each combustion unit by a certified reader in accordance with 40 CFR, Part 60, Appendix A, Method 9. For the annual observation, two (2) consecutive six (6) minute observations shall be taken at fifteen (15) second intervals. Records shall be completed and maintained in accordance with the Visible Emissions Form Requirements. The observations shall be performed for the fuel firing scenario at the time the V.E. observations are performed.

c. Upon written request and justification by the permittee, the Department of Health may waive the requirement for the annual V.E. observation of the combustion equipment. The waiver request shall be submitted prior to the required annual V.E. observation and must include documentation justifying such action. Documentation should include, but is not limited to, the results of the prior V.E. observation indicating compliance by a wide margin, documentation of continuing compliance, and further that operations of the source have not changed since the previous annual V.E. observation.

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

Section E. Notification and Reporting Requirements

1. Standard Condition Reporting

Notification and reporting pertaining to the following events shall be done in accordance with Attachment I, Standard Condition Nos. 14, 16, 17, and 24, respectively:

a. Anticipated date of initial startup, actual date of construction commencement, and actual date of startup of the combustion equipment;
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; §11-60-16)[2]

2. Deviations

The permittee shall report **within five (5) working days** any deviations from permit requirements, including those attributed to upset conditions, the probable cause of such

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

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

3. 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 per year emitted of each regulated air pollutant, including HAPs. The reporting of annual emissions is due **within sixty (60) days following** the end of each calendar year. The enclosed **Annual Emissions Report Form: Combustion Equipment,** or equivalent electronically generated form shall be used for reporting.

Upon the written request of the permittee, the deadline for reporting 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)

4. Monitoring Reports

The permittee shall complete and submit **semi-annual** monitoring reports to the Department of Health. All reports shall be submitted **within sixty (60) days after** the end of each semi-annual calendar period (January 1 - June 30 and July 1 - December 31), except for the fuel sulfur content report for the combustion equipment. The fuel sulfur content report for the combustion equipment shall be submitted to the Department of Health and U.S. EPA Region 9 postmarked by the **thirtieth (30th) day following** the end of each semi-annual calendar period. The enclosed **Monitoring Report Form: Thermal Fluid Heater Firing Rate**, **Monitoring Report Form: Secondary Control Divice**, **Monitoring Report Form: Combustion Equipment Fuel Sulfur Content**, **Monitoring Report Form: Combustion Equipment Methanol Emissions**, **Monitoring Report Form: Facility Methanol Emissions**, and **Monitoring Report Form: Opacity Exceedances,** or an equivalent electronically generated form shall be used for reporting.

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

5. Performance Testing

a. **At least thirty (30) days prior** to conducting a performance test pursuant to Attachment IIA, Section F.1, the permittee shall submit to the Department of Health a test plan indicating the date(s) of the scheduled performance test for each combustion unit as specified in Attachment IIA, Special Condition No. F.3.

b. **Within sixty (60) days after** completion of a performance test, the permittee shall submit the test results as specified in Attachment IIA, Special Condition No. F.4.

(Auth.: HAR §11-60.1-3, §11-60.1-11, §11-60.1-90; 40 CFR §60.8)[1]

6. 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 the 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 F. Testing Requirements

1. Initial and Annual Performance Testing

Within sixty (60) days after achieving the maximum production rate at which the facility will be operated, but **no later than one-hundred eighty (180) days after** initial start-up of the facility and annually thereafter, the permittee shall conduct or cause to be conducted a performance test on each combustion unit for TOC, methanol, and SO_2. Performance tests shall be conducted to determine compliance with Attachment IIA, Special Condition Nos.

C.1.a.1, C.1.a.2, C.2.a, and C.2.b. The Department of Health may define the specific operating capacity of the combustion equipment for the performance test.

(Auth.: HAR §11-60.1-3, §11-60.1-11, §11-60.1-90, §11-60.1-90, §11-60.1-161; SIP §11-60-6; 40 CFR §60.8, §60.664, §60.704)[1,2]

2. Performance Test Methods

The performance test shall be conducted and the results reported in accordance with the test methods set forth in 40 CFR, Part 60, Appendix A, and 40 CFR, Part 60, Section 60.8. Any deviations from the 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. The following test methods, or EPA approved equivalent methods, shall be used:

a. Performance tests to determine the pollutant control efficiency and concentration, as applicable, shall be conducted using:

1) Method 1 or 1A, as appropriate, for selection of the sampling sites. The combustion equipment sampling site for determination of TOC (less methane and ethane) and methanol reduction efficiency shall be prior to the inlet of the combustion equipment and after the recovery system.

2) Method 2, 2A, 2C, or 2D, as appropriate, for determination of the gas volumetric flow rates.

3) The emission rate correction factor, integrated sampling and analysis procedure Method 3 shall be used to determine the oxygen concentration for the purposes of determining compliance with the 20 ppmv limit. The sampling site shall be the same as that of the TOC samples, and the samples shall be taken during the same time that the TOC samples are taken. The TOC concentration corrected at 3 percent O_2 shall be computed using the equation specified in 40 CFR §60.664(b)(3) or 40 CFR §60.704(b)(3).

4) Method 18 for TOC concentration in the combustion equipment outlet and TOC concentration in the inlet to determine the TOC control efficiency of the combustion equipment. The TOC (minus methane and ethane) emission reduction shall be determined in accordance with either 40 CFR §60.664(b)(4) or 40 CFR §60.704(b)(4).

5) Method 308 to determine the methanol reduction efficiency of the combustion equipment based on methanol loading to each unit and the methanol in the combustion unit outlet.

6) Performance tests shall be conducted to determine compliance with the applicable requirements for equipment operating as a single unit.

7) Testing shall be conducted for the units fired on fuel oil No. 2 or biodiesel in combination with methanol gas at the time of testing or combination of fuels as specified by the Department of Health.

8) Reactor and distillation processes shall be run at full operating conditions and flow rates during the performance test in conjunction with filling a methanol storage tank at maximum loading conditions.

b. Performance tests for SO_2 emissions shall consist of fuel certifications for fuel oil No. 2 and biodiesel in accordance with Attachment IIA, Special Condition No. D.7.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90; SIP §11-60-15; 40 CFR §60.8, §60.44c, §60.664, §60.704,)[1,2]

3. Performance Test Plan

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 includes the date(s) of the test, test duration, test locations, test methods, identification of the fuels fired, and other parameters that may affect test results. Such a plan shall conform to 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. At a minimum, the following parameters shall be measured for the performance test of each combustion unit:

a. Vent stream flow rate from reactor and distillation equipment;
b. Gallon per minute flow loading rate for methanol storage tank; and
c. Parameters as specified in Attachments IID and IIE, Special Condition No. D.3.a.

(Auth.: HAR §11-60.1-11, §11-60.1-90, §11-60.1-161; SIP §11-60-15; 40 CFR §60.8) [1, 2]

4. Performance Test Report

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 equipment 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. The report shall included test results of parameters measured as required in Attachment IIA, Special Condition No. F.3.

(Auth.: HAR §11-60.1-11, §11-60.1-90; SIP §11-60-15; 40 CFR §60.8) [1, 2]

5. Testing Expense and Monitoring

The permittee shall provide sampling and testing facilities at its own expense. All performance tests may be monitored by the Department of Health.

(Auth.: HAR §11-60.1-5, §11-60.1-11, §11-60.1-90; SIP §11-60-15; 40 CFR §60.44c, §60.664, §60.704) [1, 2]

6. Performance Test Waiver

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

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

Section G. Agency Notification

1. Any document (including reports) required to be submitted by this permit shall be done in accordance with Attachment I, Standard Conditions, Condition No. 28.

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

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

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

ATTACHMENT IIB: SPECIAL CONDTIONS – STORAGE TANKS
COVERED SOURCE PERMIT NO. 0649-01-C

Issuance Date: **Expiration Date:**

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. Attachment IIB of this permit encompasses:

   a. The following storage tanks:

Tank No.	Volume (gallons)	Product	Tank Description
T-2100	100,000	sodium methylate (catalyst)	vertical fixed cone roof
T-2200	1,000,000	methanol	vertical fixed cone roof
T-2300	1,000,000	methanol	vertical fixed cone roof
T-2400	1,000,000	methanol	vertical fixed cone roof

   b. The following VOC control equipment and associated appurtenances:

      1) Combustion equipment as listed in Attachment IIA; and
      2) Closed vent capture system(s).

   (Auth.: HAR §11-60.1-3)

2. The tank number and identification of the product stored shall be identified on each storage tank. The identification number and product identification shall be displayed on each tank at a permanent and conspicuous location.

   (Auth.: HAR §11-60.1-5)

Section B. Applicable Federal Regulations

1. The storage tanks, associated vapor collection system, and combustion equipment are subject to the provisions of the following federal regulations:

   a. 40 CFR, Part 60, Standards of Performance for New Stationary Sources, Subpart A - General Provisions.

   b. 40 CFR, Part 60, Standards of Performance for New Stationary Sources, Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984.

   c. 40 CFR, Part 60, Standards of Performance for New Stationary Sources, Subpart VVa- Standards of Performance for Equipment Leaks of VOC in the SOCMI for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006.

   (Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR §60.1, §60.110b, §60.480)[1]

2. 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 the special conditions of this permit.

   (Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161)

Section C. Operational Limitations and Standards

1. Construction and Operation

   The storage tanks shall have a fixed roof with a closed vent system and air pollution control equipment meeting the following specifications:

   a. The associated closed vent system shall be designed to collect all VOC vapors and gases discharged from each storage vessel and operated with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined by Attachment IIC, Special Condition No. F.1.a.

   b. The combustion/control equipment shall be designed and operated to reduce inlet VOC emissions from the storage tanks in accordance with Attachment IIA, Special Condition No. C.2.a.

   c. The vapor collection system for each storage tank shall be fully functional and operational at all times.

   d. The storage tanks, each vapor collection system, and combustion/control equipment shall be properly maintained and kept in good operating condition at all times with scheduled inspection and maintenance as recommended by the manufacturer and as needed to ensure proper VOC control.

   e. The permittee shall operate each storage tank's closed vent system and the combustion/control equipment and monitor the parameters of the closed vent system and combustion/control equipment in accordance with the operating plan for controlling VOC emissions.

   f. The closed vent system for each storage tank shall be inspected and repaired in accordance with Attachment IIC, Special Condition No. C.13.

   (Auth.: HAR §11-60.1-3, §11.60.1-5, §11-60.1-90, §11-60.1-161; 40 CFR §60.112b(3), §60.485a(b))[1]

2. Additional Requirements

   The Department of Health reserves the right to require additional measures to mitigate odor nuisances or require additional operational controls, emission limits, and restrictions as specified in Attachment IIA, Special No. C.7.

   (Auth.: HAR §11.60.1-3, §11.60.1-5, §11-60.1-90)

Section D. Monitoring and Record keeping Requirements

1. Records

   Except for the records specified in Attachment IIB, Special Condition Nos. D.2 and D.3.a, all records, including support information, shall be maintained at the facility for **at least five (5) years** from the date of the monitoring samples, measurements, tests, reports, or applications. Support information includes all maintenance, inspection, and repair records, and copies of all reports required by this permit. These records shall be true, accurate, and maintained in a permanent form suitable for inspection and made available to the Department of Health or its representative(s) upon request.

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

2. Tank Capacity

   The permittee shall keep readily accessible records showing the dimension of each storage vessel and an analysis showing the capacity of the storage vessel for the life of the tank.

   (Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90, 40 CFR §60.116b)[1]

3. Control Equipment

   After installing the control equipment in accordance with 40 CFR §60.112b, the permittee shall keep the following records:

   a. A copy of the operating plan; and

   b. A record of the measured values of the parameters monitored in accordance with the operating plan required by Attachment IIB, Special Condition No. C.1.e.

   (Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90, 40 CFR §60.116b)[1]

4. Inspection, Maintenance, and Repair Log

   An inspection, maintenance, and repair log shall be maintained for each storage tank and associated appurtenances. At a minimum, these records shall include the date of the inspection/work, name and title of person performing the inspection/work, a short description of the inspection/work, and a description of the part(s) inspected or repaired.

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

Section E. Notification and Reporting Requirements

1. Standard Condition Reporting

   Notification and reporting pertaining to the following events shall be done in accordance with Attachment I, Standard Condition Nos. 14, 16, 17, and 24, respectively:

a. Anticipated date of initial startup, actual date of construction commencement, and actual date of startup of the storage tanks;
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; §11-60-16)[2]

2. Deviations

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

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

3. 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 the 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)

4. Monitoring Reports

Monitoring Reports for control equipment in this attachment shall be submitted in accordance with Attachment IIC, Special Condition No. E.4 and Attachments IID and IIE, Special Condition No. E.3.

Section F. Testing Requirements

1. Leak Testing

Leak testing the associated closed vent system for each storage tank shall be conducted in accordance with Attachment IIC, Special Condition No. C.13.a.

(Auth.: HAR §11-60.1-3, §11.60.1-5, §11-60.1-90, §11-60.1-161; 40 CFR §60.112b(3), §60.485(b))[1]

Section G. Agency Notification

1. Any document (including reports) required to be submitted by this permit shall be done in accordance with Attachment I, Standard Conditions, Condition No. 28.

(Auth.: HAR §11-60.1-4, §11-60.1-90)

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

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

ATTACHMENT IIC: SPECIAL CONDTIONS – SOCMI MISCELLANEOUS EQUIPMENT
COVERED SOURCE PERMIT NO. 0649-01-C

Issuance Date: **Expiration Date:**

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. Attachment IIC of this permit encompasses each pump, compressor, pressure relief device, sampling connection system, open ended valve or line, valve, and flange or other connector in VOC service and any devices or systems required by Subpart VVa.

   (Auth.: HAR §11-60.1-3)

Section B. Applicable Federal Regulations

1. The equipment is subject to the provisions of the following federal regulations:

   a. 40 CFR, Part 60, Standards of Performance for New Stationary Sources, Subpart A - General Provisions.

   b. 40 CFR, Part 60, Standards of Performance for New Stationary Sources, Subpart VVa – Standards of Performance for Equipment Leaks of VOC in the SOCMI for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006.

   (Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR §60.1, §60.480)[1]

2. 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 the special conditions of this permit.

   (Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161)

Section C. Operational Limitations and Standards

1. Emission Limit

   The total combined methanol emissions from equipment leaks shall not cause the facility to exceed 9.9 tons per year of any single HAP in any rolling twelve-month (12-month) period. Methanol emissions shall be based on the total combined number of leak sources, the applicable leak detection limits for the miscellaneous equipment, and/or actual leak detection measurements.

   (Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161)

2. General

   a. The permittee shall demonstrate compliance with the requirements of Attachment IIC, Special Condition Nos. C.2 through C.13 for all equipment within **one-hundred eighty**

(180) days of initial start-up of the facility. Compliance with the permit conditions shall be determined by review of records and reports, review of performance test results, and inspection using the methods and procedures specified in Section F of this attachment.

b. Equipment specified in 40 CFR §60.482-1a(d & e) is excluded from the monitoring requirements of Attachment IIC, Special Condition Nos. C.3. through C.14 as applicable.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR §60.1, §60.482-1a)[1]

3. Leak Detection

Equipment shall be inspected for leaks as follows:

Service	Equipment	Inspection Method	Inspection Frequency	Leak Detection Threshold
heavy liquid VOC	pumps, valves, pressure release devices, and connectors	visual, audible, olfactory, or other	whenever there is evidence of a sensible leak	visual, audible, olfactory, or other indication
		Attachment IIC, Special Condition No. F.1.a	see note a	≥ 10,000 ppm
light liquid VOC	pressure relief devices	visual, audible, olfactory, or other	whenever there is evidence of a sensible leak	visual, audible, olfactory, or other indication
		Attachment IIC, Special Condition No. F.1.a	see note a	≥ 10,000 ppm
	pumps	visual	each calendar week (see note b)	indications of liquids dripping (see note c)
	pumps	Attachment IIC, Special Condition No. F.1.a	monthly (see note b)	≥ 5,000 ppm handling polymerizing monomers ≥ 2,000 ppm all other
	valves	Attachment IIC, Special Condition No. F.1.a	monthly (see note d)	≥ 500 ppm
	connectors	Attachment IIC, Special Condition Nos. F.1.a and F.1.b as applicable	Attachment IIC, Special Condition No. C14	≥ 500 ppm
gas/vapor VOC	closed vent systems	Attachment IIC, Special Condition No. F.1.a	initially	> 500 ppm
		visual, audible, or olfactory	annually	visual, audible, or olfactory indication
	valves	Attachment IIC, Special Condition No. F.1.a	monthly (see note d)	≥ 500 ppm
	pressure relief devices	Attachment IIC, Special Condition No. F.1.b	after each pressure release	≥ 500 ppm
	connectors	Attachment IIC, Special Condition Nos. F.1.a and F.1.b as applicable	Attachment IIC, Special Condition No. C.14	≥ 500 ppm
VOC	compressors	Attachment IIC, Special Condition No. C.6		

a: Monitor within 5 days after leak is detected, unless visual, audible or other leak indication is eliminated.

b: A pump that begins operation in light liquid service after the initial startup date for the process unit must be monitored for the first time within 30 days after the end of its startup period, except for a pump that replaces a leaking pump and except as provided in 40 CFR §60.482-a(c) and paragraphs (d), (e), and (f) of 40 CFR §60.482-1a(c).

c: If there are indications of liquids dripping from the pump seal, the pump shall be monitored and repaired in accordance with 40 CFR §60.482-2a(b)(2)(i) or (ii).

d: A valve that begins operation in gas/vapor service or light liquid service after the initial startup date for the process unit must be monitored according to the following procedures, except for a valve that replaces a leaking valve and except as provided in Attachment IIC, Special Condition Nos. C.10 (d), (e), and (f) and Attachment IIC, Special Condition Nos. C15(a & b):

1) Monitor the valve monthly in accordance with Attachment IIC, Special Condition No. C.3. The valve must be monitored for the first time within 30 days after the end of its startup period to ensure proper installation.

2) If the existing valves in the process unit are monitored in accordance with 40 CFR §60.483-1a or §60.483-2a, count the new valve as leaking when calculating the percentage of valves leaking as described in 40 CFR §60.483-2a(b)(5). If less than 2.0 percent of the valves are leaking for that process unit, the valve must be monitored for the first time during the next scheduled monitoring event for existing valves in the process unit or within 90 days, whichever comes first.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR §60.1, §60.482-2a, §60.482-5a, §60.482-7a, §60.482-8a, §60.482-10a)[1]

4. Leak Repair

a. When a leak is detected, it shall be repaired as soon as practicable, but not later than **fifteen (15) calendar days after** it is detected, except for pressure release devices in gas/vapor service and as provided for in Attachment IIC, Special Condition No. C.12. A first attempt at repair shall be made **no later than five (5) calendar days after** each leak is detected.

b. For pressure release devices in gas/vapor service, when a leak is detected, it shall be repaired as soon as practicable, but **not later than five (5) calendar days after** the pressure release, except as provided for Attachment IIC, Special Condition No. C.12.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR §60.1, §60.482-2a, §60.482-5a, §60.482-7a, §60.482-8a, §60.482-10a)[1]

5. Pumps in Light Liquid Service

a. First attempts at leak repair include, but are not limited to, the following practices:

1) Tightening the packing gland nuts; and
2) Ensuring that the seal flush is operating at design pressure and temperature.

b. Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of Attachment IIC, Special Condition No. C.3, provided the requirements listed in 40 CFR §60.482-2a(d)(1) through (6) are met.

c. Any pump that is designated, as described in Attachment IIC, Special Condition Nos. D.2.e.1 and D.2.e.2, for no detectable emission, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of Attachment IIC, Special Condition Nos. C.3., C.4, and C.5.b if the pump meets the requirements of 40 CFR §60.482-2a(e)(1-3).

d. If any pump is equipped with a closed vent system capable of capturing and transporting leakage from the seal or seals to a process or to a fuel gas system or to a control device that complies with the requirements of 40 CFR.482-10a, it is exempt from Attachment IIC, Special Condition Nos. C.3, C.4, C.5.b, and C.5.c.

e. Any pump that is designated, as described in Attachment IIC, Special Condition No. D.2.f.1, as an unsafe-to-monitor pump is exempt from the monitoring and inspection requirements of Attachment IIC, Special Condition Nos. C.3, and 40 CFR §60.482-2a(d)(4) through (6) provided the permittee follows the procedures of 40 CFR §60.482a(g)(1 & 2).

f. Any pump that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of Attachment IIC, Special Condition No. C.3 and 40 CFR §60.482-2a(d)(4), and the daily requirements of 40 CFR §60.482-2a(d)(5), provided that each pump is visually inspected as often as practicable and at least monthly.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR §60.1, §60.482-2a)[1]

6. Compressors

a. Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of VOC to the atmosphere, except as provided in 40 CFR §60.482-1a(c) and Attachment IIC, Special Condition Nos. C.6.h and C.6.i.

b. Each compressor seal system as required in Attachment IIC, Special Condition No. C.6.a shall be:

1) Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or

2) Equipped with a barrier fluid system degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device that complies with the requirements of 40 CFR §60.482-10a; or

3) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.

c. The barrier fluid system shall be in heavy liquid service or shall not be in VOC service.

d. Each barrier fluid system as described in Attachment IIC, Special Condition No. C.6.a shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.

e. Each sensor as required in Attachment IIC, Special Condition No. C.6.d shall be checked daily or shall be equipped with an audible alarm. The permittee shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

f. If the sensor indicates failure of the seal system, the barrier system, or both, based on the criterion determined under Attachment IIC, Special Condition No. C.6.e, a leak is detected.

g. When a leak is detected, it shall be repaired in accordance with Attachment IIC, Special Condition No. C.4.a.

h. A compressor is exempt from the requirements of Attachment IIC, Special Condition Nos. C.6.a and C.6.b, if it is equipped with a closed vent system to capture and transport leakage from the compressor drive shaft back to a process or fuel gas system or to a control device that complies with the requirements of 40 CFR §60.482-10a, except as provided in Attachment IIC, Special Condition No. C.6.i.

i. Any compressor that is designated, as described in Attachment IIC, Special Condition Nos. D.2.e.1 and D.2.e.2, for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of Attachment IIC, Special Condition Nos. C.6.a through C.6.g if the compressor meets the requirements of 40 CFR §60.482-3a(i)(1 & 2).

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR §60.1, §60.482-3a)[1]

7. Pressure Relief Devices in Gas/Vapor Service

a. Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed vent system capable of capturing and transporting leakage through the pressure relief device to a control device as described in 40 CFR §60.482-10a is exempt from the requirements of Attachment IIC, Special Condition Nos. C.3 and C.4.

b. Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the requirements of Attachment IIC, Special Condition No. C.3 and C.4, provided that after each pressure release, a new rupture disk is installed upstream of the pressure relief device as soon as practicable, but **no later than five (5) calendar days after** each pressure release, except as provided in Attachment IIC, Special Condition No. C.12.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR §60.1, §60.482-4a)[1]

8. Sampling Connection Systems

a. Each sampling connection system shall be equipped with a closed-purged, closed-loop, or closed-vent system, except as provided in 40 CFR §60.482-1a and Attachment IIC, Special Condition No. C.8.c. Gases displaced during filling of the sample container are not required to be collected or captured.

b. The following apply to each closed-purge, closed-loop, or closed-vent system as required in Attachment IIC, Special Condition No. C.8.a:

1) Gases displaced during filling of the sample container are not required to be collected or captured.
2) Containers that are part of a closed purge system must be covered or closed when not being filled or emptied.
3) Gases remaining in the tubing or piping between the closed purge system valve(s) and sample container valve(s) after the valves are closed and the sample container is disconnected are not required to be collected or captured.
4) Each closed-purge, closed loop, or closed vent system shall be designed and operated to meet either of the following requirements:

i. Return the purged process fluid directly to the process line.
ii. Collect and recycle the purged process fluid to a process.
iii. Capture and transport all the purged process fluid to a control device that complies with the requirements of 40 CFR §60.482-10a.
iv. Collect, store, and transport the purged process fluid to any of the following systems or facilities listed in 40 CFR §60.482-5a(b)(4)(iv)(A through E)

c. In situ sampling systems and sampling systems without purges are exempt from the requirements of Attachment IIC, Special Condition Nos. C.8.a and C.8.b.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR §60.1, §60.482-5)[1]

9. Open-ended Valves or Lines

a. Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in 40 CFR §60.482-1a(c) and Attachment IIC, Special Condition Nos. C.9.d. and C.9.e. The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line.

b. Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.

c. When a double block-and-bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with Attachment IIC, Special Condition No. C.9.a at all other times.

d. Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt from the requirements of Attachment IIC, Special Condition Nos. C.9.a through C.9.c.

e. Open-ended valves or lines containing materials which would autocatalytically polymerize or would present an explosion, serious overpressure, or other safety hazard

if capped or equipped with a double block and bleed system as specified in Attachment IIC, Special Condition Nos. C.9.a through C.9.c are exempt from the requirements of Attachment IIC, Special Condition Nos. C.9.a through C.9.c.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR §60.1, §60.482-6)[1]

10. Valves in Gas/Vapor Service and in Light Liquid Service

a. Each valve shall comply with Attachment IIC, Special Condition Nos. C.3, C.4 and C.10.b through C.10.c, except as provided in Attachment IIC, Special Condition Nos. C.10.d, C.10.e, and C.10.f, and Attachment IIC, Special Condition Nos. C.15.a and C.15.b.

b. Any valve for which a leak is not detected for two (2) successive months may be monitored the first month every quarter, beginning with the next quarter, until a leak is detected. As an alternative to monitoring all valves in the first month of a quarter, the permittee may elect to subdivide the process unit into two or three subgroups in accordance with 40 CFR §60.482-7a(c)(1)(ii). If a leak is detected, the valve shall be monitored monthly until a leak is not detected for two (2) successive months.

c. First attempts at repair include, but are not limited to, the following best practices where practicable:

1) Tightening of bonnet bolts;
2) Replacement of bonnet bolts;
3) Tightening of packing gland nuts; and
4) Injection of lubricant into lubricated packing.

d. Any valve that is designated, as described in Attachment IIC, Special Condition No. D.2.e.2, for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of Attachment IIC, Special Condition No. C.10.a if the valve meets the requirements of 40 CFR §60.482-7a(f)(1-3).

e. Any valve that is designated, as described in Attachment IIC, Special Condition No. D.2.f.1, as an unsafe-to-monitor valve is exempt from the requirements of Attachment IIC, Special Condition No. C.10.a if the permittee follows the procedures of 40 CFR §60.482-7a(g)(1&2).

f. Any valve that is designated, as described in Attachment IIC, Special Condition No. D.2.f.2, as a difficult-to-monitor valve is exempt from Attachment IIC, Special Condition No. C.10.a if the permittee follows the procedures of 40 CFR §60.482-7a(h)(1-3).

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR §60.1, §60.482-7a)[1]

11. Pumps, Valves, and Connectors in Heavy Liquid Service and Pressure Relief Devices in Light Liquid or Heavy Liquid Service

    First attempts at repair include, but are not limited to, the best practices described under Attachment IIC, Special Condition No. C.10.c.

    (Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR §60.1, §60.482-8a)[1]

12. Delay of Repair

    a. Delay of repair of equipment for which leaks have been detected will be allowed if repair within fifteen (15) days is technically infeasible without a process unit shutdown. Repair of this equipment shall occur before the end of the next process shutdown. Monitoring to verify repair must occur within 15 days after startup of the process unit.

    b. Delay of repair of equipment will be allowed for equipment which is isolated from the process and which does not remain in VOC service.

    c. Delay of repair of valves will be allowed if:

        1) The permittee demonstrates that emissions of purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair; and

        2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with 40 CFR §60.482-10a.

    d. Delay of repair for pumps will be allowed if:

        1) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system; and

        2) Repair is completed as soon as practicable, but **not later than six (6) months after** the leak was detected.

    e. Delay of repair beyond a process unit shutdown will be allowed for a valve, if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies have been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs **sooner than six (6) months after** the first process unit shutdown.

    f. When delay of repair is allowed for a leaking pump, valve, or connector that remains in service, the pump, valve, or connector may be considered to be repaired and no longer subject to delay of repair requirements if two consecutive monthly monitoring instrument readings are below the leak definition.

    (Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR §60.1, §60.482-9a)[1]

13. Closed Vent Systems

a. Except as provided in Attachment IIC, Special Condition Nos. C.13.d through C.13.f, each closed vent system shall be inspected according to Attachment IIC, Special Condition No. C.3.

b. Leaks detected pursuant to inspections required by Attachment IIC, Special Condtion No. C.3 shall be repaired in accordance with Attachment IIC, Special Condition No. C.4.a, except as provided in Attachment IIC, Special Condition No. C.13.c.

c. Delay of repair of a closed vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown or if the permittee determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown.

d. If a vapor collection system or closed vent system is operated under a vacuum, it is exempt from the inspection requirements of Attachment IIC, Special Condition No. C.13.a.

e. Any parts of the closed vent system that are designated, as described in Attachment IIC, Special Condition No. C.13.g.1, as unsafe to inspect are exempt from the inspection requirements of Attachment IIC, Special Condition No. C.13.a if the permittee follows the procedures of 40 CFR §60.482-10(j)(1 & 2).

f. Any parts of the closed vent system that are designated as described in Attachment IIC, Special Condition No. C.13.g.2, as difficult to inspect are exempt from the inspection requirements of Attachment IIC, Special Condition Nos. C.13.a if the permittee follows the procedures of 40 CFR §60.482-10(k)(1-3).

g. The permittee shall record the following information:

1) Identification of all parts of the closed vent system that are designated as unsafe to inspect, an explanation of why the equipment is unsafe to inspect, and the plan for inspecting the equipment.

2) Identification of all parts of the closed vent system that are designated as difficult to inspect, an explanation of why the equipment is difficult to inspect, and the plan for inspecting the equipment.

3) For each inspection during which a leak is detected, a record of the information specified in Attachment IIC, Special Condition No. D.2.c.

4) For each inspection conducted in accordance with Attachment IIC, Special Condition No. F.1.a during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

5) For each visual inspection during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

h. Closed vent systems shall be operated at all times when emissions may be vented to them.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR §60.1, §60.482-10a)[1]

14. Connectors in Gas/Vapor Service and in Light Liquid Service

a. The permittee shall initially monitor all connectors in the process unit for leaks by the later of 12 months after the compliance date or 12 months after initial startup. If all connectors in the process unit have been monitored for leaks prior to the compliance date, no initial monitoring is required provided either no process changes have been made since the monitoring or the permittee can determine that the results of the monitoring, with or without adjustments, reliably demonstrate compliance despite process changes. If required to monitor because of a process change, the permittee is required to monitor only those connectors involved in the process change.

b. Except as allowed pursuant to 40 CFR §60.482-11a(b), connectors shall be monitored in accordance with Attachment IIC, Special Condition No. C.3.

c. Subsequent to the initial monitoring required in Attachment IIC, Special Condition No. C.14.a, connectors shall be monitored as follows:

1) If the percent leaking connectors in the process unit was greater than or equal to 0.5 percent, then monitor within 12 months.

2) If the percent leaking connectors in the process unit was greater than or equal to 0.25 percent but less than 0.5 percent, then monitor within 4 years. The permittee may comply with the requirements of this paragraph by monitoring at least 40 percent of the connectors within 2 years of the start of the monitoring period, provided all connectors have be monitored by the end of the 4-year monitoring period.

3) If the percent leaking connectors in the process unit was less than 0.25 percent, then monitor as provided in Attachment IIC, Special Condition No. C.14.d and either Attachment IIC, Special Condition No. C.14.e or C.14.f.

d. Monitor at least 50 percent of the connectors within 4 years of the start of the monitoring period.

e. If the percent of leaking connectors calculated from the monitoring results in Attachment IIC, Special Condition No. C.14.d is greater than 0.35 percent of the monitored connectors, the permittee shall monitor as soon as practical, but within the next 6 months, all connectors that have not yet been monitored during the monitoring period. At the conclusion of monitoring, a new monitoring period shall be started pursuant to Attachment IIC, Special Condition No. C.14.c, based on the percent of leaking connectors within the total monitored connectors.

f. If the percent of leaking connectors calculated from the monitoring results in Attachment IIC, Special Condition No. C.14.d is less than 0.35 percent of the monitored connectors, the permittee shall monitor all connectors that have not yet been monitored within 8 years of the start of the monitoring period.

g. If, during the monitoring conducted pursuant to Attachment IIC, Special Condition Nos. C.14.c(1-3) is found to be leaking, it shall be re-monitored once within 90 days after repair to confirm that it is not leaking.

h. The permittee shall keep a record of the start date and end date of each monitoring period for the connectors.

i. The percent of leaking connectors shall be determined in accordance with 40 CFR §60.482-11a(c).

j. When a leak is detected, it shall be repaired in accordance with Attachment IIC, Special Condition No. C.4.a.

k. Any connector that is designated, as described in Attachment IIC, Special Condition No. D.2.f.1, as an unsafe-to-monitor connector is exempt from the requirements of Attachment IIC, Special Condition Nos. C.14(a through j) provided the requirements of 40 CFR §60.482-11a(e)(1 & 2) are met.

l. Requirements specified in 40 CFR §60.482-11a(f and g) are applicable to inaccessible, ceramic, or ceramic lined connectors.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR §60.1, §60.482-11a)[1]

15. Alternate Operating Scenarios

a. The permittee may elect to comply with the allowable percentage of valves leaking of equal to or less than 2.0% in accordance with 40 CFR §60.483-1a. Notification of this alternate operating scenario shall be in accordance with Attachment IIC, Special Condition No. E.5.

b. The permittee may elect to comply with one of the alternative work practices pursuant to 40 CFR §60.483-2a for skip period leak detection and repair of valves. Notification of this alternate operating scenario shall be in accordance with Attachment IIC, Special Condition No. E.5.

c. The permittee may apply for a determination of equivalence of means of emission limitation as provided by 40 CFR, §60.484a.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR §60.1, §60.483-1a, §60.483-2a, §60.484a)[1]

16. Additional Requirements

The Department of Health reserves the right to require additional measures to mitigate odor nuisances or require additional operational controls, emission limits, and restrictions as specified in Attachment IIA, Special Condition No. C.7.

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

Section D. Monitoring and Record keeping Requirements

1. Records

All records, including support information, shall be maintained at the facility for **at least five (5) years** from the date of the monitoring samples, measurements, tests, reports, or applications. Support information includes all maintenance, inspection, and repair records, and copies of all reports required by this permit. These records shall be true, accurate, and maintained in a permanent form suitable for inspection and made available to the Department of Health or its representative(s) upon request.

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

2. Recordkeeping

a. The permittee shall record the following information for each monitoring event required for pumps in light liquid service; compressors; valves in gas/vapor and light liquid service; pumps, valves, and connectors in gas/vapor and light liquid service; pressure release devices in heavy liquid or light liquid service; and as specified in 40 CFR §60.483-2a:

1) Monitoring instrument identification.
2) Operator identification.
3) Equipment identification.
4) Date of monitoring.
5) Instrument reading.

b. When each leak is detected for pumps in light liquid service; compressors; valves in gas/vapor and light liquid service; pumps, valves, and connectors in gas/vapor and light liquid service; pressure release devices in heavy liquid or light liquid service; and as specified in 40 CFR §60.483-2a, the following apply:

1) A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.
2) The identification on a valve may be removed after it has been monitored for two (2) successive months as specified in Attachment IIC, Special Condition No. C.10.b and no leak has been detected during those two months.
3) The identification on a connector may be removed after it has been monitored as specified in Attachment IIC, Special Condition No. C14.g and no leak has been detected during that monitoring.

4) The identification on equipment, except on a valve or connector, may be removed after it has been repaired.

c. When each leak is detected for pumps in light liquid service; compressors; valves in gas/vapor and light liquid service; pumps, valves, and connectors in light liquid service; pressure release devices in heavy liquid or light liquid service; and as specified in 40 CFR §60.483-2a, the following information shall be recorded in a log and kept in a readily accessible location:

1) The instrument and operator identification numbers and the equipment identification number, except when indications of liquids dripping from a pump are designated as a leak.
2) The date the leak was detected and the dates of each attempt to repair the leak.
3) Repair methods applied in each attempt to repair the leak.
4) Maximum instrument reading measured by Method 21 at the time the leak is successfully repaired or determined to be nonrepairable, except when a pump is repaired by eliminating indications of liquids dripping.
5) "Repair delayed" and the reason for the delay if a leak is not repaired within fifteen (15) calendar days after discovery of the leak.
6) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without process shutdown.
7) The expected date of successful repair of the leak if a leak is not repaired within fifteen (15) days.
8) Dates of process unit shutdowns that occur while equipment is unprepaired.
9) The date of successful repair of the leak.

d. The following information pertaining to the design requirements for closed vent systems described in Attachment IIC, Special Condition No. C.13 shall be recorded and kept in a readily accessible location:

1) Detailed schematics, design specifications, and piping and instrumentation diagrams.
2) The dates and descriptions of any changes in the design specifications.
3) Periods when the closed vent systems are not operated as designed.
4) Dates of startup and shutdowns of the closed vent systems.

e. The following information pertaining to all equipment subject to the requirements of Attachment IIC, Special Condition Nos. C.2 through C.14 shall be recorded in a log that is kept in a readily accessible location:

1) A list of identification numbers for equipment subject to 40 CFR 60, Subpart VVa.
2) A list of identification numbers for equipment that is designated for no detectable emissions under Attachment IIC, Special Condition Nos. C.5.c, C.6.i, and C.10.d. The designation of equipment as subject to Attachment IIC, Special Condition Nos. C.5.c, C.6.i, or C.10.d shall be signed and dated by a responsible official.
3) A list of equipment identification numbers for pressure relief devices required to comply with Attachment IIC, Special Condition No. C.7.
4) The dates of each compliance test required in Attachment IIC, Special Condition Nos. C.5.c, C.6.i, C.7, and C.10.d that include:

i. The background level measured during each compliance test.

ii. The maximum instrument reading measured at the equipment during each compliance test.

5) A list of identification numbers for equipment in vacuum service.

6) A list of identification numbers for equipment that the permittee designates as operating in VOC service less than 300 hr/yr in accordance with 40 CFR §60.482-1a(e), a description of the conditions under which the equipment is in VOC service, and rationale supporting the designation that it is in VOC service less than 300 hr/yr.

7) The date and results of the weekly visual inspection for indications of liquids dripping from pumps in light liquid service.

8) Records of the following information specified for monitoring instrument calibrations conducted according to Sections 8.1.2 and 10 of Method 21 and 40 CFR §60.485a(b):

i. Date of calibration and initials of operator performing the calibration.

ii. Calibration gas cylinder identification, certification date, and certification concentration.

iii. Instrument scale(s) used.

iv. A description of any corrective action taken if the meter readout could not be adjusted to correspond to the calibration gas value in accordance with Section 10.1 of Method 21.

v. Results of each calibration drift assessment required by 40 CFR §60.485a(b)(2).

vi. If the permittee makes their own calibration gas, a description of the procedure used.

9) The connector monitoring schedule for each process unit as specified in 40 CFR §60.482-11a(b)(3)(v).

10) Records of each release from a pressure relief device subject to Attachment IIC, Special Condition No. C.7.

f. The following information pertaining to all valves subject to the requirements of Attachment IIC, Special Condition Nos. C.10.e and C.10.f , all pumps subject to the requirements of Attachment IIC, Special Condition No. C.5.e, and all connectors subject to the requirements of Attachment IIC. C.14.k shall be recorded in a log that is kept in a readily accessible location:

1) A list of identification numbers for valves, pumps, and connectors that are designated as unsafe-to-monitor, an explanation for each valve, pump, or connector stating why the valve, pump, or connector is unsafe-to-monitor, and the plan for monitoring each valve, pump, or connector.

2) A list of identification numbers for valves that are designated as difficult-to-monitor, an explanation for each valve stating why the valve is difficult-to-monitor, and the schedule for monitoring each valve.

g. The following information shall be recorded for valves complying with Attachment IIC, Special Condition No. C.15.b:

1) A schedule of monitoring.
2) The percent valves found leaking during each monitoring period.

h. The following information shall be recorded in a log that is kept in a readily accessible location:

1) Design criterion required in 40 CFR §60.482-2a(d)(5) and Attachment IIC, Special Condition No. C.6.e and explanation of the design criterion; and
2) Any changes to this criterion and the reasons for the changes.

i. Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept in a readily accessible location.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90, 40 CFR §60.486a)[1]

Section E. Notification and Reporting Requirements

1. Standard Condition Reporting

Notification and reporting pertaining to the following events shall be done in accordance with Attachment I, Standard Condition Nos. 14, 16, 17, and 24, respectively:

a. Anticipated date of initial startup, actual date of construction commencement, and actual date of startup of the affected facility;
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; §11-60-16)[2]

2. Deviations

The permittee shall report **within five (5) working days** any deviations from permit requirements, including those attributed to upset conditions, the probable cause of such deviations, and any corrective actions or preventive measures taken. Corrective actions

may include a requirement for testing, or more frequent monitoring, or could trigger implementation of a corrective action plan.

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

3. 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 per year emitted of each regulated air pollutant, including HAPs. The reporting of annual emissions is due **within sixty (60) days following** the end of each calendar year. Completion and submittal of the **Annual Emissions Report Form: Equipment Leaks,** or an equivalent electronically generated form, shall be used for reporting.

Upon the written request of the permittee, the deadline for reporting 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)

4. Monitoring Reports

The permittee shall submit semi-annual reports. The initial monitoring report for SOCMI miscellaneous equipment shall be submitted to the Department of Health and U.S. EPA, Region 9 within **six (6) months after initial start-up.** Subsequent reports for the miscellaneous equipment shall be submitted to the Department of Health and U.S. EPA Region 9 **within sixty (60) days** after the end of each semi-annual calendar period (January 1 – June 30 and July 1 – December 31). Monitoring reports for methanol emissions from equipment leaks and the facility shall be submitted to the Department of Health semi-annually (January 1 – June 30 and July 1 – December 31). The enclosed **Monitoring Report Form: SOCMI Miscellaneous Equipment**, **Monitoring Report Form: Equipment Leak Methanol Emissions**, and **Monitoring Report Form: Facility Methanol Emissions**, or an equivalent electronically generated form, shall be used for reporting.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90, 40 CFR §60.487a)[1]

5. Alternate Operating Scenarios

If the permittee elects to comply with the provisions of Attachment IIC, Special Condition Nos. C.15.a and C.15.b, the Department of Health and U.S. EPA, Region 9 shall be notified of the alternate standard selected **ninety (90) days before** implementing either of the provisions.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90, 40 CFR §60.487)[1]

6. 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 the 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 F. Testing Requirements

1. Test Methods and Procedures

a. Testing to determine compliance with the standards specified by Attachment IIC, Special Condition Nos. C.2 through C.14 shall be performed as follows:

1) Method 21 shall be used to determine the presence of leaking sources. The instrument shall be calibrated before use each day of its use by the procedures specified in Method 21. The following calibration gases shall be used:

a) Zero air (less than 10 ppm of hydrocarbon in air); and

b) A mixture of methane or n-hexane and air at a concentration no more than 2,000 ppm greater than the leak definition concentration of the equipment monitored. If the monitoring instrument's design allows for multiple calibration scales, then the lower scale shall be calibrated with a calibration gas that is no higher than 2,000 ppm above the concentration specified as a leak, and the highest scale shall be calibrated with a calibration gas that is approximately equal to 10,000 ppm. If only one scale on an instrument will be used during monitoring, the operator need not calibrate the scales that will not be used during that day's monitoring.

2) A calibration drift assessment shall be performed, at a minimum, at the end of each monitoring day in accordance with 40 CFR §60.485a(b)(2).

b. Testing to determine Compliance with the no detectable emission standards specified in Attachment IIC, Special Condition Nos. C.5.c, C.6.i, C.7, and C.10.d shall be performed in accordance with the testing specified in Attachment IIC, Special Condition F.1.a. Method 21 shall be used to determine the background level. All potential leak interfaces shall be traversed as close to the interface as possible. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

c. The permittee shall test each piece of equipment unless it is demonstrated that a process unit is not in VOC service.

d. Demonstrations to show whether or not equipment is in VOC service shall be in accordance with 40 CFR, §60.485a(d)(1-3).

e. Demonstrations to show whether or not equipment is in light liquid service shall be in accordance with 40 CFR, §60.485a(e)(1-3).

(Auth.: HAR §11-60.1-3, §11.60.1-5, §11-60.1-90, §11-60.1-161; 40 CFR §60.8, §60.485a)[1]

Section G. Agency Notification

1. Any document (including reports) required to be submitted by this permit shall be done in accordance with Attachment I, Standard Condition No. 28.

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

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

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

ATTACHMENT IID: SPECIAL CONDTIONS – SOCMI REACTOR EQUIPMENT
COVERED SOURCE PERMIT NO. 0649-01-C

Issuance Date: **Expiration Date:**

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. Attachment IID of this permit encompasses:

   a. Each combination of a reactor process and recovery system into which its vent stream is discharged. Reactor equipment includes various reactor vessels, recovery tanks, flash tanks, and related equipment.

   b. The following VOC control equipment and associated appurtenances:

      1) Vapor recovery system with two (in series) water cooled condensers;
      2) Combustion equipment as listed in Attachment IIA; and
      3) Closed vent capture system(s).

   (Auth.: HAR §11-60.1-3)

Section B. Applicable Federal Regulations

1. The equipment and associated appurtenances are subject to the provisions of the following federal regulations:

   a. 40 CFR, Part 60, Standards of Performance for New Stationary Sources, Subpart A - General Provisions.

   b. 40 CFR, Part 60, Standards of Performance for New Stationary Sources, Subpart RRR – Standards of Performance for VOC Emissins From SOCMI Reactor Processes.

   (Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR §60.1, §60.700)[1]

2. 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 the special conditions of this permit.

   (Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161)

Section C. Operational Limitations and Standards

1. General

   If the vent stream from an affected facility is routed to a distillation unit subject to 40 CFR, Part 60, Subpart NNN and has no other releases to the air except for a pressure relief valve, the facility is exempt from all provisions of Attachment IID, except for §60.705(r).

2. TOC Emissions Limit

The TOC emissions (less methane and ethane) for each combination of a reactor process and recovery system into which its vent stream is discharged shall be reduced in accordance with Attachment IIA, Special Condition No. C.2.a.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR §60.1, §60.702)[1]

3. Alternate Operating Scenario

The permittee may elect at a later date to use an alternative provision of 40 CFR, §60.702 within which to comply. Notification of this alternate operating scenario shall be in accordance with Attachment IID, Special Condition No. E.4.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR §60.1, §60.705)[1]

4. Additional Requirements

The Department of Health reserves the right to require additional measures to mitigate odor nuisances or require additional operational controls, emission limits, and restrictions as specified in Attachment IIA, Special Condition No. C.7.

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

Section D. Monitoring and Recordkeeping Requirements

1. Records

All records, including support information, shall be maintained at the facility for **at least five (5) years** from the date of the monitoring samples, measurements, tests, reports, or applications. Support information includes all maintenance, inspection, and repair records, and copies of all reports required by this permit. These records shall be true, accurate, and maintained in a permanent form suitable for inspection and made available to the Department of Health or its representative(s) upon request.

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

2. Monitoring Equipment

The permittee shall install, calibrate, maintain, and operate according to the manufacturer's specifications the following equipment:

a. A flow indicator that provides a record of vent stream flow diverted from being routed to the combustion/control equipment at least once every **fifteen (15) minutes** for each affected facility, except as provided in Attachment IID, Special Condition No. D.2.a.2. For the flow indicator, the following apply:

1) The flow indicator shall be installed at the entrance to any bypass line that could divert the vent stream from being routed to each combustion/control unit, resulting in emissions to the atmosphere.

2) Where the bypass line valve is secured in the closed position with a car-seal or a lock-and-key type configuration, a flow indicator is not required. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and the vent stream is not diverted through the bypass line.

b. A temperature monitoring device in the firebox of the combustion/control equipment pursuant to Attachment IIA, Special Condition No. D.3.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR §60.1, §60.703)[1]

3. Recordkeeping

a. The permittee shall keep an up-to-date, readily accessible record of the following data measured during each performance test, and also include the following data in the report of the initial performance test required under §60.8 and all subsequently required performance tests:

1) For the thermal fluid heaters, a description of the location at which the vent stream is introduced into each thermal fluid heater.

2) The average combustion temperature of each combustion/control unit measured at least every fifteen (15) minutes and averaged over the same time period of the performance testing.

b. The permittee shall keep up-to-date, readily accessible continuous records of the equipment operating parameters specified to be monitored pursuant to Attachment IID, Special Condition No. D.2, as well as up-to-date, readily accessible records of periods of operation during which the parameter boundaries established during the most recent performance test are exceeded. The Department of Health may at any time require a report of these data. Parameter boundaries established during the most recent performance test are exceeded whenever:

1) There is a change in the location at which the vent stream is introduced into the flame zone for each thermal fluid heater as required under Attachment IID, Special Condition No. C.2.

2) All 3-hour periods of operation during which the average combustion temperature was more than 28 ^{O}C (50 ^{O}F) below the average combustion temperature during the most recent performance test at which compliance with Attachment IID, Special Condition No. C.2 and Attachment IIA, Special Condition No. C.2.b was determined for each combustion/control unit.

c. The permittee shall keep records of the following:

1) Up-to-date, readily accessible continuous records of the flow indication specified under Attachment IID, Special Condition No. D.2.a.1, as well as up-to-date, readily accessible records of all periods and duration when the vent stream is diverted from the control combustion unit.

2) Where a seal mechanism is used to comply with Attachment IID, Special Condition No. D.2.a.2, a record of continuous flow is not required. In such cases, the permittee shall keep up-to-date, readily accessible records of all monthly visual inspections of the seals as well as readily accessible records of all periods and the duration when the seal mechanism is broken, the bypass line valve position has changed, the serial number of the broken car-seal has changed, or when the key for a lock-and-key type configuration has been checked out.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90, 40 CFR §60.705)[1]

Section E. Notification and Reporting Requirements

1. Standard Condition Reporting

Notification and reporting pertaining to the following events shall be done in accordance with Attachment I, Standard Condition Nos. 14, 16, 17, and 24, respectively:

a. Anticipated date of initial startup, actual date of construction commencement, and actual date of startup of the affected facility;
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)[1]

2. Deviations

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

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

3. Monitoring Reports

   The permittee shall submit semi-annual reports to the Department of Health and U.S. EPA, Region 9. The initial report shall be submitted within **six (6) months after initial start-up.** Subsequent reports shall be submitted to the Department of Health and U.S. EPA, Region 9 **within sixty (60) days after** the end of each semi-annual calendar period (January 1 – June 30 and July 1 – December 31). The enclosed **Monitoring Report Form: SOCMI Reactor and Distillation Equipment,** or an equivalent electronically generated form, shall be used for reporting.

   (Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90, 40 CFR §60.705)[1]

4. Alternate Operating Scenario

   If the permittee elects to comply with the alternate provisions provided in Attachment IID, Special Condition No. C.3, the Department of Health and U.S. EPA, Region 9 shall be notified of the alternate standard selected **ninety (90) days before** implementing a change.

   (Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90, 40 CFR §60.487)[1]

5. Performance Tests

   Performance test plans and reports shall be in accordance with Attachment IIA, Special Condition No. E.5.

   (Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90, 40 CFR §60.8)[1]

6. 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 the 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 F. Testing Requirements

1. Performance Testing

   Initial and annual performance tests to determine compliance with the TOC emissions specified in Attachment IID, Special Condition No. C.2 limit shall be in accordance with Attachment IIA, Special Condition, Section F.

   (Auth.: HAR §11-60.1-3, §11.60.1-5, §11-60.1-90, §11-60.1-161; 40 CFR §60.8, §60.702)[1]

Section G. Agency Notification

1. Any document (including reports) required to be submitted by this permit shall be done in accordance with Attachment I, Standard Conditions, Condition No. 28.

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

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

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

ATTACHMENT IIE: SPECIAL CONDTIONS SOCMI – DISTILLATION EQUIPMENT
COVERED SOURCE PERMIT NO. 0649-01-C

Issuance Date: **Expiration Date:**

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. Attachment IIE of this permit encompasses:

   a. Each combination of a distillation unit and the common recovery system into which its vent stream is discharged. Distillation equipment includes various separation equipment, distillation columns, related tanks, and appurtenances.

   b. The following VOC control equipment and associated appurtenances:

      1) Vapor recovery system with two (in series) water cooled condensers;
      2) Combustion equipment as listed in Attachment IIA; and
      3) Closed vent capture system(s).

   (Auth.: HAR §11-60.1-3)

Section B. Applicable Federal Regulations

1. The distillation equipment, control equipment, and associated appertenances systems are subject to the provisions of the following federal regulations:

   a. 40 CFR, Part 60, Standards of Performance for New Stationary Sources, Subpart A - General Provisions; and

   b. 40 CFR, Part 60, Standards of Performance for New Stationary Sources, Subpart NNN – Standards of Performance for VOC Emissions From SOCMI Distillation Operations.

   (Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR §60.1, §60.660)[1]

2. 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 the special conditions of this permit.

   (Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161)

Section C. Operational Limitations and Standards

1. TOC Emissions Limit

   The TOC emissions (less methane and ethane) for each combination of a distillation unit

and the common recovery system into which its vent stream is discharged shall be reduced in accordance with Attachment IIA, Special Condition No. C.2.a.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR §60.1, §60.662)[1]

2. Alternate Operating Scenario

The permittee may elect at a later date to use an alternative provision of 40 CFR §60.662 within which to comply. Alternate operating scenario notification shall be in accordance with Attachment IIE, Special Condition No. E.4.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR §60.1, §60.662)[1]

3. Additional Requirements

The Department of Health reserves the right to require additional measures to mitigate odor nuisances or require additional operational controls, emission limits, and restrictions as specified in Attachment IIA, Special Condition No. C.7.

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

Section D. Monitoring and Recordkeeping Requirements

1. Records

All records, including support information, shall be maintained at the facility for **at least five (5) years** from the date of the monitoring samples, measurements, tests, reports, or applications. Support information includes all maintenance, inspection, and repair records, and copies of all reports required by this permit. These records shall be true, accurate, and maintained in a permanent form suitable for inspection and made available to the Department of Health or its representative(s) upon request.

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

2. Monitoring Equipment

The permittee shall install, calibrate, maintain, and operate according to the manufacturer's specifications the following equipment:

a. A flow indicator that provides a record of vent stream flow to the combustion/control equipment at least once every hour for each affected facility. The flow indicator shall be installed in the vent stream from each affected facility at a point closest to the inlet of combustion/control device and before being joined by any other vent stream.

b. A temperature monitoring device in the firebox of each combustion/control unit pursuant to Attachment IIA, Special Condition No. D.3.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90, §11-60.1-161; 40 CFR §60.1, §60.663)[1]

3. Recordkeeping

a. The permittee shall keep an up-to-date, readily accessible record of the following data measured during each performance test, and also include the following data in the report of the initial performance test and all subsequently required performance tests:

1) For the thermal fluid heaters, a description of the location at which the vent stream is introduced into each thermal fluid heater.

2) The average combustion temperature of each combustion/control equipment measured at least every fifteen (15) minutes and averaged over the same time period of the performance testing.

b. The permittee shall keep up-to-date, readily accessible continuous records of equipment operating parameters specified to be monitored under Attachment IIE, Special Condition No. D.2 as well as up-to date, readily accessible records of periods of operation during which the parameter boundaries established during the most recent performance test are exceeded. The Department of Health may at any time require a report of these data. Parameter boundaries established during the most recent performance test are exceeded whenever:

1) There is a change in the location for the thermal fluid heaters at which the vent stream is introduced into the flame zone of each thermal fluid heater as required under Attachment IIE, Special Condition No. C.1.

2) All 3-hour periods of operating during which the average combustion temperature was more than 28 ^{O}C (50 ^{O}F) below the average combustion temperature during the most recent performance test at which compliance with Attachment IIE, Special Condition No. C.2 and Attachment IIA, Special Condition No. C.2.b was determined for each combustion/control unit.

c. The permittee shall keep up-to-date, readily accessible continuous records of the flow indication specified in Attachment IIE, Special Condition No. D.2.a as well as up-to-date, readily accessible records of all periods when the vent stream is diverted from the control/combustion unit or has no flow rate.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90, 40 CFR §60.665)[1]

Section E. Notification and Reporting Requirements

1. Standard Condition Reporting

Notification and reporting pertaining to the following events shall be done in accordance with

Attachment I, Standard Condition Nos. 14, 16, 17, and 24, respectively:

a. Anticipated date of initial start-up, actual date of construction commencement, and actual date of start-up of the affected facility;
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)[1]

2. Deviations

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

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

3. Monitoring Reports

The permittee shall submit semi-annual reports to the Department of Health and U.S. EPA, Region 9. The initial report shall be submitted within **six (6) months after initial start-up.** Subsequent reports shall be submitted to the Department of Health and U.S. EPA, Region 9 **within sixty (60) days** after the end of each semi-annual calendar period (January 1 – June 30 and July 1 – December 31). The enclosed **Monitoring Report Form: SOCMI Reactor and Distillation Equipment**, or an equivalent electronically generated form, shall be used for reporting.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90, 40 CFR §60.665)[1]

4. Alternate Operating Scenario

If the permittee elects to comply with the alternate provisions provided in Attachment IIE, Special Condition No. C.2, the Department of Health and U.S. EPA, Region 9 shall be notified of the alternate standard selected **ninety (90) days before** implementing a change.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90, 40 CFR §60.665)[1]

5. Performance Tests

Performance test plans and reports shall be in accordance with Attachment IIA, Special Condition No. E.5.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90, 40 CFR §60.8)[1]

6. 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 the 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 F. Testing Requirements

1. Performance Testing

Initial and annual performance tests to determine compliance with the TOC emissions limit specified in Attachment IIE, Special Condition No. C.1 shall be in accordance with Attachment IIA, Special Condition, Section F.

(Auth.: HAR §11-60.1-3, §11.60.1-5, §11-60.1-90, §11-60.1-161; 40 CFR §60.8, §60.662, §60.665)[1]

PROPOSED

Section G. Agency Notification

1. Any document (including reports) required to be submitted by this permit shall be done in accordance with Attachment I, Standard Conditions, Condition No. 28.

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

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

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

ATTACHMENT II - INSIG
SPECIAL CONDITIONS - INSIGNIFICANT ACTIVITIES
COVERED SOURCE PERMIT NO. 0649-01-C

Issuance Date: **Expiration Date:**

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. Attachment II-INSG of this permit encompasses the following insignificant activities:

   a. 250 kW emergency engine generator fired on fuel oil No. 2 or biodiesel;
   b. 250 hp firewater pump engine fired on fuel oil No. 2 or biodiesel;
   c. Eight (8) 2,000,000 gallon oil feedstock/biodiesel/fuel oil No. 2 storage tanks numbers T-0100, T-0200, T-0300, T-0400, T-0500, T-0600, T-0700, and T-0800;
   d. Two (2) 500,00 gallon vegetable oil/biodiesel tank numbers T-900 and T-1000;
   e. One (1) 300,000 gallon glycerol tank;
   f. One (1) 100,000 gallon biodiesel bottoms tank number T-1200;
   g. One (1) 150,000 gallon fuel oil No. 2 tank number T-1300;
   h. One (1) 2-cell induced draft counter-flow cooling tower;
   i. Tank truck loading operations of biodiesel/fuel oil No. 2;
   j. Marine vessel loading of biodiesel/fuel oil No. 2; and
   k. Each liquid petroleum gas or synthetic natural gas pilot light for the combustion equipment.

   (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 true, accurate, and maintained in a permanent form suitable for inspection and made available to the Department of Health or its authorized representative upon request.

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

Section D. Notification and Reporting

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.

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 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.

In lieu of addressing each emission unit as specified in Compliance Certification Form, the permittee may address insignificant activities as a single unit provided compliance is met with all applicable requirements. If compliance is not totally attained, the permittee shall identify the specific insignificant activity and provide the details associated with the noncompliance.

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

Section E. Agency Notification

1. 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. 0649-01-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 (60) days** after the end of each calendar year; and
   b. Within **thirty (30) days** after the permanent discontinuance of the covered source.

2. The annual fees shall be determined and submitted in accordance with 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 be 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

ATTACHMENT IV: ANNUAL EMISSIONS REPORTING REQUIREMENTS
COVERED SOURCE PERMIT NO. 0649-01-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.

1. Complete the attached forms, or equivalent electronically generated forms:

   Annual Emissions Report Form: Combustion Equipment
   Annual Emissions Report Form: Equipment Leaks

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.

PROPOSED

COMPLIANCE CERTIFICATION FORM
COVERED SOURCE PERMIT NO. 0649-01-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.

PROPOSED

COMPLIANCE CERTIFICATION FORM
COVERED SOURCE PERMIT NO. 0649-01-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

Permit term/condition	Equipment(s)	Compliance
All standard conditions	All Equipment(s) listed in the permit	□ Continuous □ Intermittent

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

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

PROPOSED

COMPLIANCE CERTIFICATION FORM
COVERED SOURCE PERMIT NO. 0649-01-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 piece of equipment shall be identified using the description stated in Section A of the Special Conditions (e.g., unit no., model no., serial no., etc.). Check all methods (as required by permit) used to determine the compliance status of the respective permit term/condition.

Permit term/condition	Equipment(s)	Method	Compliance
		☐ 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
COVERED SOURCE PERMIT NO. 0649-01-C
(CONTINUED, PAGE ___ OF ___)

Issuance Date: **Expiration Date:**

D. Deviations

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

(Make Additional Copies if Needed)

PROPOSED

ANNUAL EMISSIONS REPORT FORM
COMBUSTION EQUIPMENT
COVERED SOURCE PERMIT NO. 0649-01-C
(PAGE 1 OF 2)

Issuance Date: **Expiration Date:**

In accordance with the HAR, Title 11, Chapter 60.1, Air Pollution Control, the permittee shall report to the Department of Health the nature and amounts fo emissions:

(Make Copies for Additional Use)

For Reporting Period: _____ Date: _____
Company Name: Imperium Renewables, LLC
Facility Name: Kalaeloa Barbers Point Harbor Biodiesel Facility

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

Responsible Official (Print): _____

Title: _____

Responsible Official (Signature): _____

1. Report the thermal fluid heater fuel consumption as follows:

Two 38 MMBtu/hr Thermal Fluid Heaters					
Serial Nos.	Fuel Type	Heating Value		Total Combined Fuel Consumption	
		Btu/lb	Btu/gal	Pounds	Gallons
	Biodiesel				
	Fuel Oil No. 2				
	Methanol Gas		----------		----------

2. Report the secondary control device fuel consumption as follows:

Secondary Control Device					
Identification	Fuel Type	Heating Value		Total Fuel Consumption	
		Btu/lb	Btu/gal	Pounds	Gallons
	Biodiesel				
	Fuel Oil No. 2				
	Methanol Gas		----------		----------

ANNUAL EMISSIONS REPORT FORM
COMBUSTION EQUIPMENT
COVERED SOURCE PERMIT NO. 0649-01-C
(CONTINUED, PAGE 2 OF 2)

Issuance Date: **Expiration Date:**

(Make Copies for Additional Use)

3. Report the percent methanol control efficiency for each thermal fluid heater as follows: **Two 38 MMBtu/hr Thermal Fluid Heaters**	
Serial No.	% Methanol Control Efficiency

4. Report the percent methanol control efficiency for the secondary control device as follows:

Secondary Control Device	
Thermal Fluid Heater Serial Number	% Methanol Control Efficiency

PROPOSED

ANNUAL EMISSIONS REPORT FORM
EQUIPMENT LEAKS
COVERED SOURCE PERMIT NO. 0649-01-C

Issuance Date: **Expiration Date:**

In accordance with the HAR, Title 11, Chapter 60.1, Air Pollution Control, the permittee shall report to the Department of Health the nature and amounts of emissions:

(Make Copies for Additional Use)

For Reporting Period: _____ Date: _____
Company Name: Imperium Renewables, LLC
Facility Name: Kalaeloa Barbers Point Harbor Biodiesel Facility

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

Responsible Official (Print): _____

Title: _____

Responsible Official (Signature): _____

1. Report equipment leak emissions as follows:

Equipment Leaks	
Number of Leak Sources	Methanol Emissions (ton/year)[a]

a: Attach equipment leak calculations.

PROPOSED

MONITORING REPORT FORM
THERMAL FLUID HEATER FIRING RATE
COVERED SOURCE PERMIT NO. 0649-01-C
(PAGE 1 OF 3)

Issuance Date: **Expiration Date:**

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

(Make Copies for Additional Use)

For Reporting Period: _____ Date: _____
Company Name: Imperium Renewables, LLC
Facility Name: Kalaeloa Barbers Point Harbor Biodiesel Facility

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

Responsible Official (Print): _____
Title: _____
Responsible Official (Signature): _____

1. Report the monthly HHV (Btu/lb) for each fuel fired:

Two 38 MMBtu/hr Thermal Fluid Heaters			
Month	Fuel HHV for Month (Btu/pound)		
	Biodiesel	Fuel Oil No. 2	Methanol Gas
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			

PROPOSED

MONITORING REPORT FORM
THERMAL FLUID HEATER FIRING RATE
COVERED SOURCE PERMIT NO. 0649-01-C
(CONTINUED, PAGE 2 OF 3)

Issuance Date: **Expiration Date:**

(Make Copies for Additional Use)

2. Report the fuel consumption (pounds) as follows:

Two 38 MMBtu/hr Thermal Fluid Heaters			
Month	Fuel Consumption (pounds)		
	Biodiesel	Fuel Oil No.2	Methanol Gas
	Both Units	Both Units	Both Units
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			

PROPOSED

MONITORING REPORT FORM
THERMAL FLUID HEATER FIRING RATE
COVERED SOURCE PERMIT NO. 0649-01-C
(CONTINUED, PAGE 3 OF 3)

Issuance Date: **Expiration Date:**

3. Report the firing rate (MMBtu) as follows:

Two 38 MMBtu/hr Thermal Fluid Heaters				
Month	Firing Rate (MMBtu)			Total Combined Fuel Firing Rate 12-Month Rolling Basis (MMBtu)
	Biodiesel	Fuel Oil No.2	Methanol Gas	All Fuels Fired by Both Thermal Fluid Heaters
	Both Units	Both Units	Both Units	
January				
February				
March				
April				
May				
June				
July				
August				
September				
October				
November				
December				

PROPOSED

MONITORING REPORT FORM
SECONDARY CONTROL DEVICE
COVERED SOURCE PERMIT NO. 0649-01-C

Issuance Date: **Expiration Date:**

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

(Make Copies for Additional Use)

For Reporting Period: _____ Date: _____
Company Name: Imperium Renewables, LLC
Facility Name: Kalaeloa Barbers Point Harbor Biodiesel Facility

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

Responsible Official (Print): _____
Title: _____
Responsible Official (Signature): _____

1. Report the total operating hours for the secondary combustion/control device as follows:

Month	Secondary Combustion/Control Device	
	Total Operating Hours Monthly Basis	Total Operating Hours 12-Month Rolling Basis
January		
February		
March		
April		
May		
June		
July		
August		
September		
October		
November		
December		

PROPOSED

MONITORING REPORT FORM
COMBUSTION EQUIPMENT FUEL SULFUR CONTENT
COVERED SOURCE PERMIT NO. 0649-01-C

Issuance Date: **Expiration Date:**

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

(Make Copies for Additional Use)

For Reporting Period: _____ Date: _____
Company Name: Imperium Renewables, LLC
Facility Name: Kalaeloa Barbers Point Harbor Biodiesel Facility

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

Responsible Official (Print): _____

Title: _____

Responsible Official (Signature): _____

1. Report the maximum fuel sulfur content of each fuel fired by the thermal fluid heaters for the reporting period:

Two 38 MMBtu/hr Thermal Fluid Heaters		
Serial Nos.	Fuel Type	Maximum Weight % Sulfur Content
	Biodiesel	
	Fuel Oil No. 2	
	Methanol Gas	

2. Report the maximum fuel sulfur content of each fuel fired by the secondary control device for the reporting period:

Secondary Control Device		
Identification	Fuel Type	Maximum Weight % Sulfur Content
	Biodiesel	
	Fuel Oil No. 2	
	Methanol Gas	

PROPOSED

MONITORING REPORT FORM
COMBUSTION EQUIPMENT METHANOL EMISSIONS
COVERED SOURCE PERMIT NO. 0649-01-C
(PAGE 1 OF 5)

Issuance Date: **Expiration Date:**

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

(Make Copies for Additional Use)

For Reporting Period: _____ Date: _____
Company Name: Imperium Renewables, LLC
Facility Name: Kalaeloa Barbers Point Harbor Biodiesel Facility

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

Responsible Official (Print): _____
Title: _____
Responsible Official (Signature): _____

1. Report the total methanol loading to the thermal fluid heaters in the table below:

Two 38 MMBtu/hr Thermal Fluid Heaters				
Month	Methanol Loading (tons)		% Methanol Control Efficiency[a]	
	Unit Serial No. _____	Unit Serial No. _____	Unit Serial No. _____	Unit Serial No. _____
January				
February				
March				
April				
May				
June				
July				
August				
September				
October				
November				
December				

[a]Based on most recent performance test results for each unit.

MONITORING REPORT FORM
COMBUSTION EQUIPMENT METHANOL EMISSIONS
COVERED SOURCE PERMIT NO. 0649-01-C
(CONTINUED, PAGE 2 OF 5)

Issuance Date: **Expiration Date:**

(Make Copies For Additional Use)

2. Report the methanol emissions from the thermal fluid heaters in the table below based on methanol loading to the units in tons and the % methanol control efficiency provided by each thermal fluid heater unit.

Two 38 MMBtu/hr Thermal Fluid Heaters			
Month	Methanol Emissions (tons)		Total Combined Methanol Emission from Both Units (tons)
	Unit Serial No. _____	Unit Serial No. _____	
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			

MONITORING REPORT FORM
COMBUSTION EQUIPMENT METHANOL EMISSIONS
COVERED SOURCE PERMIT NO. 0649-01-C
(CONTINUED, PAGE 3 OF 5)

Issuance Date: **Expiration Date:**

(Make Copies for Additional Use)

3. Report the total methanol loading to the secondary control device in the table below:

Secondary Control Device		
Month	Methanol Loading (tons)	% Methanol Control Efficiency[a]
	Unit Serial No. _____ Unit Manufacturer _____	Unit Serial No. _____ Unit Manufacturer _____
January		
February		
March		
April		
May		
June		
July		
August		
September		
October		
November		
December		

a: Based on most recent performance test results for each unit.

MONITORING REPORT FORM
COMBUSTION EQUIPMENT METHANOL EMISSIONS
COVERED SOURCE PERMIT NO. 0649-01-C
(CONTINUED, PAGE 4 OF 5)

Issuance Date: **Expiration Date:**

(Make Copies for Additional Use)

4. Report the methanol emissions from the secondary control device in the table below based on methanol loading to the units in tons and the % methanol control efficiency provided by each thermal fluid heater unit.

Secondary Control Device	
Month	Methanol Emissions (tons) Unit Serial No. _____ Unit Manufacturer _____
January	
February	
March	
April	
May	
June	
July	
August	
September	
October	
November	
December	

MONITORING REPORT FORM
COMBUSTION EQUIPMENT METHANOL EMISSIONS
COVERED SOURCE PERMIT NO. 0649-01-C
(CONTINUED, PAGE 5 OF 5)

Issuance Date: **Expiration Date:**

(Make Copies for Additional Use)

5. Report all incidences when there was no TOC control provided by at least one combustion unit during the reporting period.

Incident Duration	Incident Date

PROPOSED

MONITORING REPORT FORM
EQUIPMENT LEAK METHANOL EMISSIONS
COVERED SOURCE PERMIT NO. 0649-01-C

Issuance Date: **Expiration Date:**

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

(Make Copies for Additional Use)

For Reporting Period: _____ Date: _____
Company Name: Imperium Renewables, LLC
Facility Name: Kalaeloa Barbers Point Harbor Biodiesel Facility

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

Responsible Official (Print): _____

Title: _____

Responsible Official (Signature): _____

1. Report the total combined methanol emissions from the equipment leaks as follows:

Equipment Leaks		
Month	Number of Leak Sources	Total Equipment Leak Methanol Emissions (tons)
January		
February		
March		
April		
May		
June		
July		
August		
September		
October		
November		
December		

PROPOSED

MONITORING REPORT FORM
FACILITY METHANOL EMISSIONS
COVERED SOURCE PERMIT NO. 0649-01-C

Issuance Date: **Expiration Date:**

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

(Make Copies for Additional Use)

For Reporting Period: _____ Date: _____
Company Name: Imperium Renewables, LLC
Facility Name: Kalaeloa Barbers Point Harbor Biodiesel Facility

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

Responsible Official (Print): _____

Title: _____

Responsible Official (Signature): _____

1. Report the methanol emissions from the facility as follows:

Total Facility Methanol Emissions				
Month	Methanol Emissions (tons)			Total Combined Methanol Emissions (tons) 12-Month Rolling Basis
	Equipment Leaks	Thermal Fluid Heaters	Secondary Control Unit	
		Both Units		
January				
February				
March				
April				
May				
June				
July				
August				
September				
October				
November				
December				

MONITORING REPORT FORM
SOCMI MISCELLANEOUS EQUIPMENT
COVERED SOURCE PERMIT NO. 0649-01-C
(PAGE 1 OF 7)

Issuance Date: **Expiration Date:**

In accordance with the HAR, Title 11, Chapter 60.1, Air Pollution Control, the permittee shall report to the Department of Health the following information beginning six (6) months after the initial startup date and semi-annually thereafter:

(Make Copies for Additional Use)

For Reporting Period: _____ Date: _____
Company Name: Imperium Renewables, LLC
Facility Name: Kalaeloa Barbers Point Harbor Biodiesel Facility

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

Responsible Official (Print): _____

Title: _____

Responsible Official (Signature): _____

Report the following for the reporting period:

a. Process unit identification: _____

_____

b. Number of valves subject to Attachment IIC, Special Condition No. C.10, excluding valves designated for no detectable emissions pursuant to Attachment IIC, Special Condition No. C.10.d: _____

c. Number of pumps subject to Attachment IIC, Special Condition No. C.5, excluding pumps designated for no detectable emissions pursuant to Attachment IIC, Special Condition No. C.5.c and pumps complying with Attachment IIC, Special Condition No. C.5.d: _____

d. Number of compressors subject to the requirements of Attachment IIC, Special Condition No. C.6, excluding compressors designated for no detectable emissions pursuant to Attachment IIC, Special Condition No. C.6.i and those compressors complying with Attachment IIC, Special Condition No. C.6.h: _____

e. Number of connectors subject to the requirements of Attachment IIC, Special Condition No. C.14: _____

MONITORING REPORT FORM
SOCMI MICELLANEOUS EQUIPMENT
COVERED SOURCE PERMIT NO. 0649-01-C
(CONTINUED, PAGE 2 OF 7)

Issuance Date: **Expiration Date:**

(Make Copies for Additional Use)

f. For each month during the reporting period:

1) Report in the following table, the number of valves in gas/vapor and light liquid service for which leaks were detected pursuant to Attachment IIC, Special Condition No. C.3.

Valve Leaks Detected (gas/vapor and light liquid service)	
Month	Number of Valves Detected Leaking
January	
February	
March	
April	
May	
June	
July	
August	
September	
October	
November	
December	

2) Report in the following table, the number of valves in gas/vapor service and light liquid service for which leaks were not repaired within fifteen (15) calendar days after leak is detected pursuant to Attachment IIC, Special Condition No. C.4, except as provided in Attachment IIC, Special Condition No. C.12.

Valve Leak Repair (gas/vapor and light liquid service)	
Month	Number of Valves Not Repaired After Leak(s) Detected
January	
February	
March	
April	
May	
June	
July	
August	
September	
October	
November	
December	

MONITORING REPORT FORM
SOCMI MICELLANEOUS EQUIPMENT
COVERED SOURCE PERMIT NO. 0649-01-C
(CONTINUED, PAGE 3 OF 7)

Issuance Date: **Expiration Date:**

(Make Copies for Additional Use)

3) Report in the following table, the number of pumps in light liquid service for which leaks were detected pursuant to Attachment IIC, Special Condition No. C.3, 40 CFR §60.482-2a(d)(4)(ii)(A) and (B), and 40 CFR §60.482-2a(d)(5)(iii).

Pump Leaks Detected (Light Liquid Service)				
Month	Number of Pumps Detected Leaking			
	Attachment IIC, Special Condition No. C.3	Dual Mechanical Seal System Pumps		
		40CFR§60.482-2a(d)(4)(ii)(A)	40CFR§60.482-2a(d)(4)(ii)(B)	40CFR§60.482-2a(d)(5)(iii)
January				
February				
March				
April				
May				
June				
July				
August				
September				
October				
November				
December				

4) Report in the following table, the number of pumps in light liquid service for which leaks were not repaired within fifteen (15) calendar days after the leak is detected pursuant to Attachment IIC, Special Condition Nos. C.4 and 40 CFR §60.482(d)(6)(ii), except as provided in Attachment IIC, Special Condition No. C.12.

Pump Leak Repair (Light Liquid Service)		
Month	Number of Pumps Not Repaired After Leak(s) Detected	
	Attachment IIC, Special Condition No. C.3	40 CFR §60.482-2a(d)(6)
January		
February		
March		
April		
May		
June		
July		
August		
September		
October		
November		
December		

MONITORING REPORT FORM
SOCMI MICELLANEOUS EQUIPMENT
COVERED SOURCE PERMIT NO. 0649-01-C
(CONTINUED, PAGE 4 OF 7)

Issuance Date: **Expiration Date:**

(Make Copies for Additional Use)

5) Report in the following table, the number of compressors for which leaks were detected pursuant to in Attachment IIC. Special Condition No. C.6.f.

Compressor Leaks Detected	
Month	Number of Compressors Detected Leaking
January	
February	
March	
April	
May	
June	
July	
August	
September	
October	
November	
December	

6) Report in the following table, the number of compressors for which leaks were not repaired within fifteen (15) calendar days after it is detected pursuant to Attachment IIC, Special Condition No. C.6.g, except as provided in Attachment IIC, Special Condition No. C.12.

Compressor Leak Repair	
Month	Number of Compressors Not Repaired After Leak(s) Detected
January	
February	
March	
April	
May	
June	
July	
August	
September	
October	
November	
December	

MONITORING REPORT FORM
SOCMI MICELLANEOUS EQUIPMENT
COVERED SOURCE PERMIT NO. 0649-01-C
(CONTINUED, PAGE 5 OF 7)

Issuance Date: **Expiration Date:**

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7) Report in the following table, the number of connectors for which leaks were detected pursuant to in Attachment IIC, Special Condition No. C.14.b.

Connector Leaks Detected	
Month	Number of Connectors Leaking
January	
February	
March	
April	
May	
June	
July	
August	
September	
October	
November	
December	

8) Report in the following table, the number of connectors for which leaks were not repaired within fifteen (15) calendar days after it is detected pursuant to Attachment IIC, Special Condition No. C.4.

Connector Leak Repair	
Month	Number of Connectors Not Repaired After Leak(s) Detected
January	
February	
March	
April	
May	
June	
July	
August	
September	
October	
November	
December	

MONITORING REPORT FORM
SOCMI MICELLANEOUS EQUIPMENT
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Issuance Date: **Expiration Date:**

(Make Copies for Additional Use)

9) Report in the following table, the facts that explain each delay of repair, and where appropriate, why a process unit shutdown was technically infeasible.

Equipment Description	Explanation for Delay of Repair

MONITORING REPORT FORM
SOCMI MICELLANEOUS EQUIPMENT
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g. Report in the table below, the dates of process unit shutdowns which occurred within the semiannual reporting period.

Process Unit Shutdowns	
Beginning Shutdown Date	Ending Shutdown Date

MONITORING REPORT FORM
SOCMI REACTOR AND DISTILLATION EQUIPMENT
COVERED SOURCE PERMIT NO. 0649-01-C
(PAGE 1 OF 2)

Issuance Date: **Expiration Date:**

In accordance with the HAR, Title 11, Chapter 60.1, Air Pollution Control and 40 CFR, Part 60 §60.705, the permittee shall report to the Department of Health the following information beginning six (6) months after the initial startup date and semi-annually thereafter:

(Make Copies for Additional Use)

For Reporting Period: _____ Date: _____
Company Name: Imperium Renewables, LLC
Facility Name: Kalaeloa Barbers Point Harbor Biodiesel Facility

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

Responsible Official (Print): _____
Title: _____
Responsible Official (Signature): _____

1. For control of reactor and distillation equipment emissions, report all 3-hour periods of operation when the average combustion temperature of the combustion/control device was more than 28 ^{O}C (50 ^{O}F) below the average combustion temperature during the most recent performance test at which compliance with the TOC emission limit was determined.

Unit Serial No.	Exceedance Date	Exceedance Duration

2. For control of reactor and distillation equipment emissions, report all incidences when there was a change in location at which the vent stream is introduced into the flame zone of each thermal fluid heater as required for compliance with the TOC emission limit.

Unit Serial No.	Exceedance Date

MONITORING REPORT FORM
SOCMI REACTOR AND DISTILLATION EQUIPMENT
COVERED SOURCE PERMIT NO. 0649-01-C
(CONTINUED, PAGE 2 OF 2)

Issuance Date: **Expiration Date:**

(Make Copies for Additional Use)

3. For control of reactor equipment emissions, report all incidences when the vent stream was diverted from the combustion/control device to the atmosphere.

Exceedance Description	Exceedance Date	Exceedance Duration

4. For control of distillation equipment emissions, report all incidences when the vent stream was diverted from the combustion/control device or has no flow rate.

Exceedance Description	Exceedance Date	Exceedance Duration

MONITORING REPORT FORM
OPACITY EXCEEDANCES
COVERED SOURCE PERMIT NO. 0649-01-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:

(Make Copies for Future Use)

For Period:_____ Date:_____

Company/Facility Name: Imperium Renewables, LLC

Facility Name: Kalaeloa Barbers Point Harbor Biodiesel Facility

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

Responsible Official (Print):_____

Title:_____

Responsible Official (Signature):_____

Visible Emissions:

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

EQUIPMENT or EMISSION POINT DESCRIPTION	SERIAL/ID NO.	DATE	6 MIN. AVER. (%)	COMMENTS

VISIBLE EMISSIONS FORM REQUIREMENTS
STATE OF HAWAII
COVERED SOURCE PERMIT NO. 0649-01-C

Issuance Date: **Expiration Date:**

The ***Visible Emissions (V.E.) Form*** shall be completed **monthly** (*each calendar month*) for each equipment subject to opacity limits in accordance with 40 CFR Part 60, Appendix A, Method 9 or use of a Ringelmann Chart as provided. At least **annually** (*calendar year*), V.E. observation 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 five (5) percent increments (e.g., 25%).
2. Orient the sun within a 140 degree sector to your back. Provide a source layout sketch on the V.E. Form using the symbols as shown.
3. For V.E. observations of stacks, stand at least three (3) stack heights but not more than a quarter mile from the stack.
4. Two (2) consecutive six (6) minute observations shall be taken at fifteen (15) second intervals for each stack or emission point.
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 the 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 years, and made available to the Department of Health, or their representative upon request.

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

PROPOSED

VISIBLE EMISSIONS FORM
COVERED SOURCE PERMIT NO. 0649-01-C

Issuance Date: **Expiration Date:**

(Make Copies for Additional Use)

Company Name:_____

Describe equipment and fuel:_____

(During observation)

Site Conditions:

Stack height above ground (ft):_____

Stack distance from observer (ft):_____

Emission color (black or white):_____

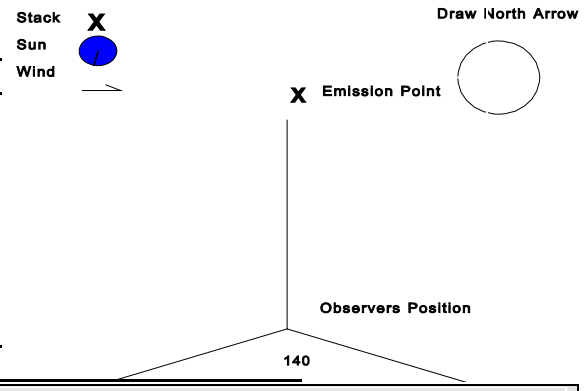
Sky conditions (% cloud cover):_____

Wind speed (mph):_____

Temperature (°F):_____

Observer Name:_____

Certified? (Yes/No):_____



Observation Date and Start Time:_____

Method of observation (Ringelmann Chart or Method 9):_____

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

Observation Date and Start Time:_____

Method of observation (Ringelmann Chart or Method 9):_____

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