

**North Coast Unified
Air Quality Management District**
707 L Street, Eureka, CA 95501
(707) 443-3093
www.ncuaqmd.org



PUBLIC NOTICE

Issue Date: November 25, 2024

Proposal to Approve Authority to Construct Permit for the Construction of an Emergency Standby Generator

The North Coast Unified Air Quality Management District (District) is the local agency that regulates stationary sources of air pollution such as factories, industrial sites, and gasoline stations within the California counties of Humboldt, Del Norte, and Trinity.

This public notice is issued in compliance with California Health & Safety Code (HSC) Section 42301.6, which requires the Air Pollution Control Officer (APCO) of the District or the designated applicant, to distribute a public notice to selected persons prior to approving an application for a permit to construct or modify any source which has the potential to emit specified hazardous air contaminants if the source is located within 1,000 feet of the outer boundary of a school. HSC Section 42301.6 requires that a notice be made to parents and/or guardians of the children attending any school within $\frac{1}{4}$ mile of a new or modified source and to each address located within a radius of 1,000 feet of the potential source.

Cal Poly Humboldt has applied for an Authority to Construct Permit to install and operate a diesel-fueled emergency standby generator at the Craftsman Mall facility located at 2905 St. Louis Road, Arcata, California. The unit is a 315 hp diesel-fueled engine that powers an emergency standby generator. The device will serve in a standby capacity, powering the facility during emergency events, when utility power is unavailable. The device will also be permitted to operate a maximum of 50 hours per year for maintenance and testing (non-emergency) purposes. The combustion of diesel fuel in compression ignition engines produces exhaust gases and soot (particles). The State of California has classified diesel exhaust as being a "toxic air contaminant."

The District gives notice of intent to take final action, after a 30-day public comment period. This public comment period allows interested members of the public to review the proposed permit to operate and provide written comments. Written comments must be received prior to the close of business on Friday, December 27, 2024. The APCO will review and consider all comments prior to taking final action on the application for a permit to operate.

Documents are available for inspection at the District offices during normal business hours - Monday through Friday 9:00 a.m. to 12:00 p.m. and 1:00 p.m. to 4:00 p.m. Information is also posted on the District website at www.ncuaqmd.org. Should you have a question or require additional information, contact Ms. Cameron Purchio at (707) 443-3093 or cpurchio@ncuaqmd.org. Public comments concerning this permit may be submitted to:

**North Coast Unified Air Quality Management District
Attn: Cal Poly Humboldt Craftsman Mall, ATC #001316-1
707 L Street
Eureka, CA 95501**

**NORTH COAST UNIFIED
AIR QUALITY MANAGEMENT DISTRICT**

707 L Street, Eureka, CA 95501
(707) 443-3093
www.ncuaqmd.org



**AUTHORITY TO CONSTRUCT &
TEMPORARY PERMIT TO OPERATE**

PERMIT NO.

001316-1

Is Hereby Granted To:

Permittee:

Cal Poly Humboldt
1 Harpst Street
Arcata, CA 95521

Location:

Craftsman Mall
2905 St. Louis Road
Arcata, CA 95521

Contact:

Cal Poly Humboldt
1 Harpst Street
Arcata, CA 95521
tkn11@humboldt.edu

Device Type:

Emergency Standby Generator

AUTHORIZING SIGNATURE

BY: _____

JASON L. DAVIS
DEPUTY APCO, for
BRIAN M. WILSON
AIR POLLUTION CONTROL OFFICER

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DRAFT

DEFINITIONS

As used in this Permit, the terms shall have the meaning set out herein.

- a. **acfm**: actual cubic feet per minute
- b. **APCO**: the NCUAQMD Air Pollution Control Officer
- c. **Calendar Day**: Any continuous 24-hour period beginning at 12:00 AM or 0000 hours
- d. **California Air Resources Board (CARB) Diesel Fuel**: Any diesel fuel that is commonly or commercially known, sold, or represented by the supplier as diesel fuel No. 1-D or No. 2-D, pursuant to the specifications in ASTM D975-81, "Standard Specification for Diesel Fuel Oils," as modified in May 1982, which is incorporated herein by reference, and that meets the specifications defined in Title 13 CCR, sections 2281, 2282 and 2284
- e. **CAM Plan**: Compliance Assurance Monitoring Plan, as defined in 40 CFR 64
- f. **CARB**: the California Air Resources Board
- g. **CEMS**: Continuous Emissions Monitoring System
- h. **CFR**: the Code of Federal Regulations
- i. **COMS**: Continuous Opacity Monitor
- j. **Diesel Particulate Matter (DPM)**: filterable particulate matter (PM) measured using EPA method 5
- k. **District**: North Coast Unified Air Quality Management District
- l. **dscfm**: dry standard cubic feet per minute
- m. **Emergency**: operation arising from a sudden and reasonably unforeseeable event beyond the control of the permittee (e.g., an act of God) which causes the excess of a limitation under this permit and requires immediate and corrective action. An "emergency" does not include noncompliance as a result of improperly designed or installed equipment, lack of preventative maintenance, careless or improper operation, or operator error.
- n. **EPA**: the United States Environmental Protection Agency
- o. **Facility**: the site of the equipment authorized for use by this permit
- p. **Heat Input**: the energy (heat) input of the fuel combusted at the higher heating value (HHV) of the fuel
- q. **HEPA filter**: means a High Efficiency Particulate Air filter used to remove particles less than one (1) micron in aerodynamic diameter and operates at removal efficiencies of 99.9 percent or better.
- r. **HHV**: Higher Heating Value
- s. **HSC**: California Health & Safety Code
- t. **hr**: one hour – a standard measurement of time
- u. **H₂S**: Hydrogen Sulfide
- v. **lb**: pound – an English unit of measurement of weight and mass being equivalent to 7000 grains, 16 ounces, and 0.453 kilograms
- w. **MMBtu**: million British thermal units
- x. **Natural Gas**: any mixture of gaseous hydrocarbons containing at least 80 percent methane by volume as determined by Standard Method ASTM D1945-64
- y. **NCUAQMD**: North Coast Unified Air Quality Management District
- z. **NFPA**: National Fire Protection Association

- aa. **Notice:** unless otherwise stated, shall be in writing, sent postage prepaid, to the APCO and include all information required. Notice shall be sent to the APCO at the following address: 707 L Street, Eureka, CA. Hand delivery or facsimile are also acceptable.
- bb. **O₂:** Oxygen
- cc. **Permittee:** the owner or operator identified on the Permit title page
- dd. **PM:** Particulate Matter
- ee. **Ppmvd:** parts per million, volumetric dry
- ff. **Quarter:** calendar quarter, consisting of the following Q1 - January through March; Q2 - April through June; Q3 - July through September; Q4 - October through December
- gg. **Responsible Official:** person(s) who have direct authority or control to affect operations of the equipment authorized pursuant to this Permit, and who have the ability to certify that a source complies with all applicable federal requirements and federally enforceable permit conditions as generally defined in NCUAQMD Rule 101
- hh. **ROC:** reactive organic carbon consistent with NCUAQMD Rule 101 and HSC
- ii. **SO₂:** Sulfur Dioxide
- jj. **VEE:** Visible Emissions Evaluation
- kk. **Year:** Any consecutive twelve-month period of time

GENERAL CONDITIONS

Administration

1. This Permit is issued pursuant to NCUAQMD Rules and the California Health and Safety Code Section 42300. Commencement of any act or operation authorized by this Permit shall be conclusively deemed to be acceptance of all terms and conditions contained herein.
2. The Permittee shall comply with all conditions of this permit. Any violation of any condition of this Permit is a violation of NCUAQMD Rules and Regulations, and California State Law. [NCUAQMD Rule 105(A)]
3. The Permit Conditions shall be liberally construed for the protection of the health, safety and welfare of the people of the NCUAQMD. In the event that two or more conditions may apply, and such conditions cannot apply without conflict, the condition(s) most restrictive shall prevail. [NCUAQMD Rule 100(F)(3), Rule 102(E)]
4. The NCUAQMD Rules and Regulations may be revised by the NCUAQMD Board with notice as required by State law. It is Permittee's responsibility to stay current with Rules and Regulations governing its business. The Permittee is expected to, and shall, comply with all applicable Rules and Regulations. [NCUAQMD Rule 100(F), Rule 105(A)]
5. Permit requirements apply to the facility owner and/or operator(s) and any contractor(s) or subcontractor(s) performing any activity authorized under this Permit. Any person(s) including contractor(s), subcontractor(s), not in compliance with the applicable permit requirements are in violation of State and Local laws, and are subject to appropriate civil and criminal penalties. The facility owner and/operator, and all contractor(s) or subcontractor(s) are strictly liable for the actions and violations of their employee(s). A violation committed by a contractor(s) or subcontractor(s) shall be considered a violation by the facility owner(s) and/or operator(s), and is also a violation by the contractor(s) and/or any subcontractor(s). [NCUAQMD Rule 105(A)]
6. Changes in plans, specifications, or other representations to the documents and forms submitted as part of the application package, shall not be made if they will increase the discharge of emissions or cause a change in the method of control of emissions or in the character of emissions of the subject facility. No modification shall be made prior to issuance of a permit revision for such modification. [NCUAQMD Rule 102]
7. Knowing and willful misrepresentation of a material fact in the application for the Permit, or failure to comply with any condition of the Permit, or of the NCUAQMD Rules and Regulations, or any State or federal law, shall be grounds for revocation of this Permit. [NCUAQMD Rule 102]
8. Permittee shall not construct, erect, modify, operate, or use any equipment which conceals the emission of an air contaminant, which would otherwise constitute a violation of the limitations of this Permit. [NCUAQMD Rule 104(A)(2)]
9. This Permit does not convey any property rights of any sort, or any exclusive privilege.

10. The "Right of Entry", as delineated in *NCUAQMD* Rule 109(A) and California Health and Safety Code, Division 26, Section 41510 shall apply at all times. Failure to grant immediate access to District, CARB, or other authorized personnel shall be grounds for permit suspension or revocation.
11. The APCO reserves the right to amend this Permit in order to ensure compliance with all applicable Federal, State and Local laws, Rules and Regulations or to mitigate or abate any ambient air related public nuisance. Such amendments may include requirements for additional operating conditions, testing, data collection, reporting and other conditions deemed necessary by the APCO. [*NCUAQMD Rule 102(E)*]
12. If any provision or condition of this Permit is found invalid by a court of competent jurisdiction, such finding shall not affect the validity or enforcement of the remaining provisions. [*NCUAQMD Rule 102(E)*]
13. This Permit shall be posted in a conspicuous location at the site and shall be made available to *NCUAQMD* representatives upon request. [*NCUAQMD Rule 102(H)*]
14. The Permittee shall pay an annual permit fee and other fees as required in accordance with District Regulation IV. Failure to pay these fees will result in the forfeiture of this Permit. Operation without a permit subjects the source to potential enforcement action by the District. In the event of facility closure or change of ownership or responsibility, the new owner or operator shall be assessed and shall pay any unpaid fees. [*NCUAQMD Regulation IV - Fees*]
15. This Permit is not transferable from either one location to another, from one piece of equipment to another, or from one person to another, except as provided herein. In the event of any change in control or ownership of the subject facility, the Permittee shall notify the succeeding owner of this Permit and its conditions and shall notify the *NCUAQMD* of the change in control or ownership within thirty (30) days of that change. [*NCUAQMD Rule 102(E)*]
16. A request for Transfer of Ownership of this Permit shall be submitted to the APCO prior to commencing any operation of the subject equipment and/or operations by any owner(s) and/or operator(s) not otherwise identified in this Permit. Failure to file the Transfer of Ownership constitutes a separate and independent violation, and is cause for voiding this Permit. The burden of applying for a Transfer of Ownership is on the new owner(s) and/or operator(s). Any Permit transfer authorized pursuant to a transfer of ownership request shall contain the same conditions as this Permit. [*NCUAQMD Rule 102(E), Rule 102(E)*]
17. For purposes of this Permit, the terms identified in the Definition Section shall have the meaning set out in *NCUAQMD* Rule 101 and as defined in the definition section of this permit. In the event of any conflict between Rule 101 and the permit definitions, the definitions section of this permit shall prevail. [*NCUAQMD Rule 102(E)*]

Emissions & Operation

18. This Permit does not authorize the emission of air contaminants in excess of those allowed by the federal Clean Air Act, California Health and Safety Code or the Rules and Regulations of the NCUAQMD. This Permit shall not be considered as permission to violate existing laws, ordinances, regulation or statutes of other governmental agencies. [*NCUAQMD Rule 102(E)*]
19. Permittee shall not discharge such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public; or which endanger the comfort, repose, health or safety of any such persons or the public; or which cause or have a natural tendency to cause injury or damage to business or property. [*HSC §41700; NCUAQMD Rule 104(A)(1)*]
20. Permittee shall not discharge into the atmosphere from any source whatsoever any air contaminant in excess of the applicable opacity limits of NCUAQMD Rule 104(B) [*HSC §41701; NCUAQMD Rule 104(B)*]
21. The handling, transporting, or open storage of material in such a manner which allows unnecessary amounts of particulate matter to become airborne shall not be permitted. Reasonable precautions shall be taken to prevent particulate matter from becoming airborne. [*NCUAQMD Rule 104(D)*]
22. The Permittee shall not discharge into the atmosphere from any single source of emissions, sulfur oxides (calculated as sulfur dioxide (SO₂)) in excess of 1,000 ppm or in excess of the emission limitations of Federal New Source Performance Standards, as applicable. [*NCUAQMD Rule 104(E)*]
23. All equipment regulated by this Permit shall at all times be maintained in good working order, and shall be operated as efficiently as possible so as to ensure compliance with all applicable emission limits. For purposes of compliance with this requirement, good working order, efficient operation, and proper maintenance shall mean the implementation of all protocols, procedures, and activities recommended by the device manufacturer or those required by this Permit. [*NCUAQMD Rule 102(E)*]
24. The Permittee shall maintain the permitted equipment in compliance with the latest Cal-OSHA safety standards so as to ensure the health and safety of District representatives performing a site inspection. [*NCUAQMD Rule 102(E)*]

Records & Training

25. The Permittee shall provide training and instruction to all affected contractor(s), subcontractor(s), and employee(s). Training shall include the identification of all the requirements contained within this Permit, and the appropriate method to be used to comply with the permit conditions. Training shall occur prior to any of the contractor(s), subcontractor(s), or employee(s) constructing or operating equipment authorized by this permit. Records documenting the persons receiving instruction and the instruction materials shall be made available to the APCO upon request. [*NCUAQMD Rule 102(E)*]

26. Permittee shall furnish to the APCO, within a reasonable time, any information that the NCUAQMD may request to determine compliance with this Permit or whether cause exists for modifying, revoking and reissuing, or terminating this Permit. Upon request, Permittee shall also furnish to the NCUAQMD copies of records required to be kept by this Permit. [*HSC §42303; NCUAQMD Rule 103(F); NCUAQMD Rule 102(E)*]
27. The Permittee shall maintain a breakdown log that describes the breakdown, includes the date and time of the breakdown, the cause of the breakdown, corrective measures taken, and the date and time when the breakdown was corrected. [*NCUAQMD Rule 105(E)*]

Permit Term

28. This Authority to Construct permit is valid for no more than twenty-four (24) months from the date of first issue. The Permittee shall notify the APCO when construction of each of the devices has been completed, and shall identify the expected date the devices will first begin operation. The notice shall be submitted within thirty (30) calendar days of the date when construction was completed. [*40 CFR 52.21(k); NCUAQMD Rule 105(E)*]
29. Permittee shall submit written notification to the APCO identifying the first day the equipment was operated. The notice shall be submitted within seven (7) calendar days of initial operation. This Authority to Construct shall automatically convert to a Temporary Permit to Operate on the first day the equipment is operated and shall be valid for a period not to exceed thirty (30) calendar days. The APCO may extend the Temporary Permit To Operate for a maximum of an additional thirty (30) days for good cause. The burden of proof rest upon the Permittee to demonstrate good cause. [*NCUAQMD Rule 103(H)(4)*]
30. Once the equipment has been operated in compliance with the conditions of the Temporary Permit To Operate, as determined by the APCO, the Permittee may apply for a conversion to a Permit To Operate. In no event shall the first application for conversion be submitted more than twenty-four (24) months from the date the Authority to Construct permit was first issued. [*NCUAQMD Rule 105(E)*]

EQUIPMENT SPECIFIC CONDITIONS

AUTHORIZED EQUIPMENT

31. This permit authorizes the installation and operation of the following equipment:

Table 1.0 - Authorized Process Equipment

Device S-1	Emergency Standby Diesel CI Engine
Application	Standby Generator
SCC	20200102
Generator Model	Kohler 200REOZJF
Engine Model	Deere 6068HFG85A
Engine Family	RJDXL12.5103
Size	315Hp, 235kW
Year	2023
Serial Number	TBD (Engine), TBD (Generator)
Heat Input Rate	2.52 MMBtu/hr (18 gal/hr)
Location	40.8844, -124.0826

32. The Permittee shall install and maintain a non-resettable hour meter with a minimum display capability of 9,999 hours upon the Emergency Diesel IC Engine authorized for use by this permit. [17 CCR §93115.10(d) effective May 19, 2011]

OPERATIONAL CONDITIONS

33. The Permittee shall only operate the Emergency Diesel CI Engine S-1 using one of the following fuels:

- A. CARB Diesel Fuel, or
- B. An alternative diesel fuel that meets the requirements of the Verification Procedure (as codified in CCR Title 13 Sections 2700-2710), or
- C. CARB Diesel Fuel used with fuel additives that meets the requirements of the Verification Procedure (as codified in CCR Title 13 Sections 2700-2710), or
- D. Any combination of a) through c) above.

34. The Emergency Diesel CI Engine S-1 is authorized the following maximum allowable annual hours of operation as listed below: [17 CCR §93115 effective May 19, 2011]

Table 2.0 Hours of Operation for Emergency Diesel CI Engine S-1

Emergency Use	Non-Emergency Use	
	Emission Testing to show compliance	Maintenance & Testing
Not Limited by the ATCM	Not Limited by the ATCM	50 hours/year

35. The Permittee shall only operate the Emergency Diesel CI Engine in accordance with the most recent amendment of Title 17, California Code of Regulations section 93115.6(a)(3)(A), ATCM for Stationary CI Engines.
36. The Permittee shall maintain the permitted equipment in compliance with federal and State Occupational Safety and Health Administration requirements so as to ensure the health and safety of District representatives performing a site inspection. [NCUAQMD Rule 102(E)]
37. The Permittee shall take immediate corrective action to restore compliant operation upon detection of an upset or breakdown condition that causes or may cause a violation of any emissions limitation, as established in this permit or in NCUAQMD rules. [NCUAQMD Rule 102(E)]

EMISSION LIMITATIONS

38. The Permittee shall not discharge pollutants into the atmosphere from the Emergency Diesel CI Engine S-1 at rates in excess of the performance standards in Table 3.0 below. [17 CCR §93115.10(d) effective May 19, 2011]

Table 3.0 Emergency Diesel CI Engine S-1 Performance Standards

Pollutant	Performance Standards	
	g/bhp-hr	
HC	n/a	
NOx	n/a	
NMHC + NOx	3	
CO	2.6	
PM	0.15	

39. The Permittee shall not discharge pollutants into the atmosphere from the Emergency Diesel CI Engine S-1 in excess of the following limits in Table 4.0 below. Emissions generated during an emergency event or during emission testing for compliance purposes shall not contribute towards the hourly or annual emission limits. [NCUAQMD Rule 102(E)]

Table 4.0 Emergency Diesel CI Engine S-1 Emission Limits

Pollutant	Emission Rate	
	lb/hr	tons/year
CO	1.812	4.53E-1
NOx	1.968	4.92E-1
PM ₁₀	0.104	2.59E-2
PM _{2.5}	0.104	2.59E-2
SOx	0.0019	4.76E-4
VOC	0.104	2.59E-2

40. The Permittee shall not operate the Emergency Diesel CI Engine S-1 such that any air contaminant is discharged in excess of twenty (20) percent opacity, or as dark or darker in shade as that designated as No. 1 on the Ringelmann Chart, calculated as a six (6) minute average. [NCUAQMD Rule 104(B)(3)]
41. The Permittee shall not discharge particulate matter into the atmosphere from any combustion source in excess of 0.20 grains per cubic foot of dry gas calculated to 12 percent CO₂ at standard conditions. [NCUAQMD Rule 104(C)(1)]

COMPLIANCE TESTING & MONITORING

42. The Permittee shall have the visible emissions from the Emergency Diesel CI Engines determined using EPA Reference Method 9 (Visible Emissions Evaluation) for opacity of exhaust gases within thirty (30) days after being directed by the APCO. [NCUAQMD Rule 102(E)]

RECORDKEEPING & REPORTING

43. The Permittee shall record the Emergency Diesel CI Engine S-1 operational parameters as listed in Table 5.0 below. [17 CCR §93115.10(g) effective May 19, 2011]

Table 5.0 Recordkeeping – S-5 (Emergency CI Engine)

Frequency	Information to be recorded
Upon Occurrence	A. Maintenance or repairs performed B. Equipment breakdown or malfunction C. Excessive emission events
Monthly	D. Emergency hours of operation E. Maintenance and testing hours of operation F. Emission testing hours of operation G. Quantity (gallons) of CARB Diesel combusted
Annually	H. Emergency hours of operation I. Maintenance and testing hours of operation J. Emission testing hours of operation K. Quantity (gallons) of CARB Diesel combusted

44. The permittee shall document the use of CARB Diesel through the retention of fuel purchase records indicating that the only fuel purchased for supply to S-1 (Emergency Standby Diesel CI Engine) was CARB Diesel. [NCUAQMD Rule 102(E)]
45. The Permittee shall retain records required by this section for a minimum of 36 months. Records shall be retained on-site, either at a central location or at the engine’s location, and

shall be made immediately available to the District staff upon request. [NCUAQMD Rule 102(E)]

46. The Permittee shall report to the NCUAQMD any deviations from the requirements of this permit, including those attributable to breakdown conditions, the probable cause of the deviations, and any corrective actions or preventive measures taken. Within ten (10) days after occurrence, the Permittee shall report the following information regarding the event: [NCUAQMD Rule 105(E)]

- A. Duration of excessive emissions,
- B. Estimation of the quantity of emissions,
- C. Statement of the cause of the occurrence, and
- D. Corrective measures taken to prevent recurrences.

47. The Permittee shall provide information requested by the NCUAQMD for emission inventory purposes within thirty (30) days of receiving the request. [NCUAQMD Rule 103(F)]

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**North Coast Unified Air Quality
Management District**
707 L Street, Eureka, CA 95501
Telephone (707) 443-3093 FAX (707) 443-3099
www.ncuaqmd.org



ENGINEERING EVALUATION

Cal Poly Humboldt

Craftsman Mall

Emergency Standby Generator

APPLICATION NO.: 806-12, 001316-1

EVALUATION DATE: November 19, 2024

EVALUATION BY: Cameron Purchio, Air Quality Engineer

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FACILITY INFORMATION

Permittee: Cal Poly Humboldt
1 Harpst Street
Arcata, CA 95521

Site: Craftsman Mall
2905 St. Louis Road
Arcata, CA 95521

SIC: 8221

INTRODUCTION & PROPOSAL

Permittee has submitted an application to obtain an Authority to Construct permit (ATC) for the installation of a diesel engine (S-1) to be used at the listed facility as a standby emergency generator.

EQUIPMENT DESCRIPTION

S-1 is a stationary emergency standby generator powered by an attached diesel-fueled engine.

S-1 meets the definition of “new CI engine” as described in the California Air Resources Board (CARB) Airborne Toxic Control Measure for Stationary Compression Ignition Engines (Stationary ATCM) section 93115.4(a)(50).

Equipment Information

Device S-1	Emergency Standby Diesel CI Engine
Application	Standby Generator
SCC	20200102
Generator Model	Kohler 200REOZJF
Engine Model	Deere 6068HFG85A
Engine Family	RJDXL12.5103
Size	315Hp, 235kW
Year	2023
Serial Number	TBD (Engine), TBD (Generator)
Heat Input Rate	2.52 MMBtu/hr (18 gal/hr)
Location	40.8844, -124.0826

PROCESS RATE

The emergency standby diesel-fueled generator (S-1) expected fuel use of CARB Diesel Fuel in standby operation: Tier 3

OPERATING SCHEDULE

Based on Stationary ATCM section 93115.6(a)(3)(A)(c), operation of the emergency standby diesel-fueled generator (S-1) will be limited to 50 hours per year for

maintenance and testing. Engine operation for emergency use is not limited by the ATCM.

CONTROL EQUIPMENT

The emergency standby diesel-fueled generator (S-1) utilizes various controls to help meet the emission standard category for its rated power class of: Tier 3

EMISSIONS CALCULATIONS

Consistent with ARB guidance, allowable and actual annual emissions for the emergency standby diesel-fueled generator (S-1) were calculated at a rate of 50 hours/year (see *“Risk Management Guidelines for the Permitting for New Stationary Diesel Fueled Engines”*, October 2000, Table 1, p.11). Potential to emit (PTE) was calculated at a rate of 500 hours/year (see U.S. EPA memo *“Calculating Potential to Emit for Emergency Generators,”* September 6, 1995). The applicable Stationary ATCM emission standards were used to calculate allowable emission rates. EPA certification levels were used to calculate actual emission rates (see *Attachment A, Emissions Calculations*). Sulfur oxide emission rates were calculated using a mass balance equation and are based on the use of CARB Diesel Fuel (in which the sulfur content, by weight, will not exceed 0.0015%, or 15 ppm).

Allowable Emission Rates

Pollutant	Emission Rate	
	lb/hr	tons/year
CO	1.812	4.53E-1
NOx	1.968	4.92E-1
PM₁₀	0.104	2.59E-2
PM_{2.5}	0.104	2.59E-2
SOx	0.0019	4.76E-4
VOC	0.104	2.59E-2

APPLICABLE RULES AND REGULATIONS

NCUAQMD Regulation I, Rule 104(B)(3) – Visible Emissions:

“No person shall discharge into the atmosphere from any source whatsoever any air contaminant which is in excess of twenty (20) percent opacity, or as dark or darker in shade as that designated as No. 1 on the Ringelmann Chart, calculated as a six (6) minute average.”

The emergency standby diesel-fueled generator (S-1), if properly operated and maintained, is expected to comply with the requirements of the above rule as it is certified to the following emissions standard: Tier 3

NCUAQMD Regulation I, Rule 104(C)(1) – Particulate Matter, General Combustion Source:

“A person shall not discharge particulate matter into the atmosphere from any combustion source in excess of 0.46 grams per standard cubic meter (0.20 grains per standard cubic foot) of exhaust gas, calculated to 12 percent carbon dioxide...”

Based on emissions calculations, the emergency standby diesel-fueled generator (S-1) is expected to comply with the requirements of the above rule (see Attachment A).

NCUAQMD Regulation I, Rule 104(E) – Sulfur Oxide Emissions:

“No person shall discharge into the atmosphere from any single source of emissions whatsoever sulfur oxides, calculated as sulfur dioxide (SO₂) in excess of 1,000 ppm...”

Based on emissions calculations, the emergency standby diesel-fueled generator (S-1) is expected to comply with the requirements of the above rule (see Attachment A).

NCUAQMD Regulation I, Rule 104(K) – Federal New Source Performance Standards (NSPS):

“All new sources of air contaminants or modifications to existing sources shall comply with the rules, standards, criteria and requirements of Part 60, Chapter 1, Title 40, Code of Federal Regulations...”

Because the emergency standby diesel-fueled generator (S-1) was manufactured after April 1, 2006, it is subject to the provisions of 40 CFR 60 Subpart IIII (Standards of Performance for Stationary Compression Ignition Internal Combustion Engines).

Because S-1 is a model year of 2007 or later and has a displacement of less than 30 liters per cylinder, Section 60.4205(b) requires that it comply with the emission standards for new nonroad CI engines in Section 60.4202. S-1 complies with these requirements, as shown in Permittee’s ATC application.

Sections 60.4206 and 60.4211(a) require that the owner/operator operate and maintain the engine according to the manufacturer’s written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer, over the entire life of the engine. Permittee is expected to comply with this requirement.

Section 60.4207(a) requires that by October 1, 2007, the owner/operator must use fuel that complies with 40 CFR 80.150(a). Permittee is expected to comply with this requirement because it will use CARB Diesel (*see ATCM Compliance, below*).

Section 60.4207(b) requires that by October 1, 2010, S-1 must use fuel that complies with 40 CFR 80.151(b). Permittee is expected to comply with this requirement because S-1 will use CARB Diesel (*see ATCM Compliance, below*).

Section 60.4209(a) requires that a non-resettable hour meter is installed on S-1 prior to startup of the engine. This is also a requirement of the Stationary ATCM and will be a condition of the Authority to Construct.

S-1 complies with the requirements of section 60.4211(c) because it is certified in accordance with 40 CFR Part 89.

Section 60.4211(e) requires that S-1 is run for less than 100 hours per year for maintenance checks and readiness testing. Permittee is expected to comply with this requirement because the Stationary ATCM is more restrictive, in that it limits such activity to 50 hours per year (*see ATCM Compliance, below*).

Permittee is not required to perform tests in accordance with Sections 60.4212 or 60.4213.

According to section 60.4214, because S-1 is an emergency stationary IC engine, Permittee is not required to submit an initial notification to EPA.

Because S-1 does not have a diesel particulate filter, it is not subject to the provisions in Section 60.4214(c).

Permittee is required to comply with certain sections of 40 CFR 60 Subpart A, General Provisions. Permittee is expected to comply with these requirements.

NCUAQMD Regulation I, Rule 104(L) – National Emissions Standards for Hazardous Air Pollutants (NESHAPS):

According to 40 CFR 63 Subpart ZZZZ, the emergency standby diesel-fueled generator (S-1) is considered to be part of an “area source” because the facility at which it exists does not emit any single hazardous air pollutant (HAP) at a rate of 10 tons or more per year or any combination of HAP at a rate of 25 tons or more per year. Area sources are subject to the above regulations, however, the requirements of the CARB Stationary ATCM incorporate and/or are more restrictive than the federal conditions.

New Source Review (NSR) and Prevention of Significant Deterioration (PSD) Compliance

NCUAQMD Regulation I, Rule 110 – NSR:

“This rule shall apply to all new and modified stationary sources which are subject to AQMD permit requirements and, after construction, emit or may emit any affected pollutants.”

NSR is applicable because the emergency standby diesel-fueled generator (S-1) is subject to AQMD permit requirements and emits affected pollutants. For NSR purposes, PTE for S-1 is calculated according to Reg I, Rule 110(F)(3), and by the definition for “Potential to Emit” in (D)(23) of the same rule. PTE was calculated at 100% load, at a rate of 500 hours/year (see Emissions Calculations section). This method of calculating PTE aligns with EPA guidance provided in "Calculating Potential to Emit (PTE) for Emergency Generators" (September 6, 1995).

According to Reg I, Rule 110(E)(1), an applicant shall apply BACT to any new emissions unit when its PTE exceeds the amounts listed therein. The PTE for S-1 does not exceed the pounds per year or the tons per year threshold for any pollutant (see *attachment A*).

According to Reg I, Rule 110(E)(2)(a), offsets shall not be required because the PTE for S-1 does not exceed 25 tons per year for any pollutant.

NCUAQMD Regulation I, Rule 110 – PSD:

The emergency standby diesel-fueled generator (S-1) is not subject to Prevention of Significant Deterioration (PSD) review because PTE does not exceed 250 tons per year for any criteria pollutant.

ATCM Compliance

Airborne Toxic Control Measure for Stationary Compression Ignition Engines [CCR Title 17 Section 93115, effective May 19, 2011]:

The emergency standby diesel-fueled generator (S-1) is subject to the CARB Stationary ATCM because it is a stationary compression ignition engine with a rated brake horsepower greater than 50, and it does not belong to any of the exemption categories listed under ATCM section 93115.3.

The engine model of S-1 is certified according to 40 CFR Part 89 Subpart D for compliance with the follow EPA emission standards, as specified in 40 CFR, PART 60, Subpart III: Tier 3

S-1 is required to use either CARB Diesel Fuel or the alternative fuels listed in ATCM sections 93115.5(a)(2) through (6).

Stationary ATCM section 93115.6(a)(3)(A)(c) limits operation of the emergency standby diesel-fueled generator (S-1) to 50 hours per year for maintenance and testing. Engine operation for emergency use is not limited by the ATCM.

Emission Standards and Exhaust Levels

Pollutant	Exhaust (g/bhp-hr)	
	Emission Standards	Exhaust Levels
HC	n/a	-
NOx	n/a	-
NMHC+NOx	3	2.55
CO	2.6	0.4
PM	0.15	0.07

S-1 is not enrolled in a Demand Response Program and is therefore not subject to the requirements and standards of ATCM section 95515.6(c)(1).

S-1 is subject to the recordkeeping and reporting requirements of ATCM sections 93115.10(a), (d)(1), and (f). The requirements of section (a) were met when the District accepted the application for S-1 submitted by Permittee. The requirements of section (d)(1) and (f) will be met by permit conditions.

California Health and Safety Code Compliance

Public Notice, CH&SC §42301.6:

“Prior to approving an application for a permit to construct or modify a source which emits hazardous air emissions, which source is located within 1,000 feet from the outer boundary of a schoolsite, the air pollution control officer shall prepare a public notice in which the proposed project or modification for which the application for a permit is made is fully described.”

The requirements of the California Health and Safety Code §42301.6 apply because S-1 is not permanently located within 1,000 feet of a K-12 school.

RECOMMENDATION

Operation of S-1 as described in this evaluation is expected to comply with all applicable State and Federal laws and District Rules and Regulations. Staff believes sufficient evidence exists for the APCO to make the determinations required under District Rule 102(A) and Rule 103(G). Thus, staff recommends that the conditional approval, in accordance with Rule 103(E), be granted to the applicant to operate the authorized equipment in accordance with a District Authority to Construct permit.

ATTACHMENT A

Emission Calculations

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Cal Poly Humboldt - Craftsman Mall

Stationary Emergency Diesel-powered Equipment Generator - Emissions Calculations

Tier 3

HP = 315
 kW = 235
 Gallons/Hour = 18.0
 MMBtu/Hr = 2.5
 Hours/Day = 24
 Hours/Quarter = 500
 Hours/Year = 500
 Max Hours/Year = 500

40 CFR 98.38 / EPA Cert Levels / Eng. Calc

Device Potential to Emit

Pollutant	grams/hp-hr	lbs/hr	lb/day	lb/quarter	lb/year	tons/yr
PM	0.07	0.052	1.24	25.89	25.89	1.29E-02
NMHC+NOx	2.55	1.771	42.50	885.52	885.52	4.43E-01
NOx	2.42	1.682	40.38	841.24	841.24	4.21E-01
HC	0.128	0.089	2.13	44.28	44.28	2.21E-02
CO	0.4	0.311	7.46	155.35	155.35	7.77E-02
CO2		0.000	0.00	0.00	0.00	0.00E+00
CH4	0.0237	0.016	0.39	8.21	8.21	4.11E-03
N2O	0.0047	0.003	0.08	1.64	1.64	8.21E-04
SOx	Using Mass Bal Eq	0.0019	0.05	0.95	0.95	4.76E-04

40 CFR 98.38 / EPA Cert Levels / ATCM Standards / Eng. Calc

Proposed Emission Limits (Allowable)

Pollutant	grams/hp-hr	lbs/hr	lb/day	lb/quarter	lb/year	tons/yr
PM	0.15	0.104	-	-	51.78	2.59E-02
NMHC+NOx	3.0	2.071	-	-	1035.69	5.18E-01
NOx	2.83	1.968	-	-	983.91	4.92E-01
HC	0.15	0.104	-	-	51.78	2.59E-02
CO	2.6	1.812	-	-	906.23	4.53E-01
CO2	0.0	0.000	-	-	0.00	0.00E+00
CH4	0.0237	0.016	-	-	8.21	4.11E-03
N2O	0.0047	0.003	-	-	1.64	8.21E-04
SOx	Using Mass Bal Eq	0.0019	-	-	0.95	4.76E-04

40 CFR 98.38 / EPA Cert Levels / Eng. Calc

Equipment Emissions As Proposed (Actual)

Pollutant	grams/hp-hr	lbs/hr	lb/day	lb/quarter	lb/year	tons/yr
PM	0.07	0.052	-	-	25.89	1.29E-02
NMHC+NOx	2.6	1.771	-	-	885.52	4.43E-01
NOx	2.4	1.682	-	-	841.24	4.21E-01
HC	0.13	0.089	-	-	44.28	2.21E-02
CO	0.4	0.311	-	-	155.35	7.77E-02
CO2	0.0	0.000	-	-	0.00	0.00E+00
CH4	0.0237	0.016	-	-	8.21	4.11E-03
N2O	0.0047	0.003	-	-	1.64	8.21E-04

Cal Poly Humboldt - Craftsman Mall

Stationary Emergency Diesel-powered Equipment Generator - Emissions Calculations

SOx Using Mass Bal Eq 0.0019 - - 0.95 4.76E-04

HARP Device Process Data - Rates & Emissions

Equipment Size (HP)	315
Output capacity (MW)	0.2348955
1000 gallons / hour	0.018
1000 gallons / year	9

EMS Factor

PM10	0.0746	2.88 lb / 1000 gallons
NOx	2.4228	93.47 lb / 1000 gallons
CO	0.4474	17.26 lb / 1000 gallons
VOC	0.1275	4.92 lb / 1000 gallons
SOx	Mass Balance Method	0.1058 lb / 1000 gallons
PAH's*	0.000168	0.0232 lb / 1000 gallons
DPM (PM10)	0.074569987	2.88 lb / 1000 gallons

* EF in lb/MMBtu

Sulfur Content of Fuel	0.000015 grams per gram of fuel
Diesel No. 2 F-factor	9400 dscf/MMBtu
Molecular Weight SO ₂	64 grams/mole
Standard Molar Volum	0.8493 dscf/mol (68 degrees F and 1 atm)
1 gram	15.432 grains
Gallon of Fuel	7.05 Pounds
For every gram of S	2 grams of SO ₂
liters	22.4 grams per mole
Cubic foot	28.3 liters
Heat Input Diesel (gallc	140000 BTU
Pound	454 grams
MMBtu	1000000 BTU

PM10 Concentration (combustion contaminants)
 362.4906734 grains per hour
 23349.6 cubic feet per hour
0.015524492 grains per cubic foot exhaust gas
 0.2 grains / dscf is allowable by District Regulation

SO₂ Concentration (%SO₂ by volume)
 9.02385E-07
0.902385159 ppm by volume
 1,000 ppmv is allowable by District Regulation

**Cal Poly Humboldt - Craftsman Mall
Stationary Emergency Diesel-powered Equipment
Generator - Emissions Calculations**

SOx Mass Balance Method

0.0019035 pounds per hour

0.10575 pounds per 1000 gallons

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