

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT <i>ENGINEERING DIVISION</i> APPLICATION PROCESSING AND CALCULATIONS	PAGES 6	PAGE 1
	APPL. NO. 513816	DATE 5/27/2011
	PROCESSED BY LI CHEN	CHECKED BY

PERMIT TO OPERATE

COMPANY NAME AND ADDRESS

LA CO. SHERIFF DEPT
1000 S. Fremont Ave., Bldg. A-9 East, 5th Floor
Alhambra, CA 91803-8878
FACILITY ID # 29411

CONTACT: George Lee, (626) 300-3030

EQUIPMENT LOCATION

441 Bauchet Street
Los Angeles, CA 90012

EQUIPMENT DESCRIPTION:

INTERNAL COMBUSTION ENGINE, CUMMINS, DIESEL FUELED, EMERGENCY ELECTRICAL GENERATION, ENGINE MODEL NO. QSK23-G7NR2, SERIAL NO. 00322291, SIX CYLINDERS, TURBOCHARGED/AFTERCOOLED, RATED AT 1220 B.H.P., DRIVING AN EMERGENCY ELECTRICAL GENERATOR RATED AT 750KW, WITH A JOHNSON MATTHEY PARTICULATE FILTER CRT(+)-4-C-BITO-CS-12-LP.

BACKGROUND

The facility submitted the application in August 2010. The purpose was to install a new diesel emergency generator to replace an existing one, permitted under A/N385185. The facility considers the project as a functionally identical replacement. The new engine is a Tier II engine, and was issued a certified equipment permit by AQMD under A/N471026. The certification expires on December 31, 2010.

Because the facility is a Title V facility and a major source BACT requires a diesel particulate filter be installed for the diesel emergency generator. The applicant agreed to install a Johnson Matthey CRT particulate filter system. The filter is verified by CARB in 2011. It reduces PM by 85%, and HC and CO by 90%.

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The applications and the fees are listed in the next table.

Application No.	Equipment Description	Purpose	Fees
513816	Emergency IC Engine	New construction	\$2,094.60

The facility paid a fee of \$657.13 for the application. The facility will need to pay additional \$1,437.47 for the permit evaluation fee.

The facility is a Title V facility. The facility has a pending Title V application A/N510069. Title V permit revision will be done using this application.

It does not participate in the RECLAIM program.

EMISSIONS

As determined by the AQMD certified equipment permit A/N471026 the engine is Tier II compliant. The control efficiency of DPF on PM10 is assumed to be 85%. Emission limits are shown in the next table. Emissions are calculated based on 50 hours of annual maintenance limit.

BHP = 1,220

	NOx	CO	PM10	VOC	SOx
E.F. (g/bhp-hr)	4.3	0.6	0.1	0.1	0.005
E.F. (g/bhp-hr) with DPF	4.3	0.6	0.015	0.1	0.005
g/hr	5246	732	18.3	122	6.1
lbs/hr	11.57	1.61	0.04	0.27	0.01
30-day average (lbs/day)	1.61	0.22	0.01	0.04	0
lbs/year	578	81	13	13	1

EVALUATION

Rule 212 – Standards for Approving Permits and Issuing Public Notice

The facility is not located within 1,000 feet of a school boundary. The closest nearby school is located at 1.6 miles away as determined using Google maps. The total anticipated emissions from the proposed project is less than the thresholds of Rule 212(g) table. Public notice is not required.

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Rule 401 – Visible Emissions

Compliance with this rule is expected for an IC engine under normal operation.

Rule 402 – Nuisance

Compliance with this rule is expected for an IC engine under normal operation.

Rule 404 – Particulate Matter – Concentration

Compliance with this rule is expected.

Rule 409 – Combustion Contaminants

Compliance with this rule is expected.

Rule 431.2 – Sulfur Content of Liquid Fuels

Diesel fuel supplied to this equipment must contain 15 ppm or less sulfur by weight. Compliance is expected.

Reg. XIII – New Source Review

This regulation applies to new or modified sources that have emission increases. The requirements of this regulation includes best available control technology (BACT), modeling analysis, and offset.

- BACT

Because the facility is a major source the BACT requirement is equivalent to lowest available emission rate (LAER). For a stationary emergency internal combustion engine that is greater than 750 bhp the minor source BACT for is consistent with the EPA’s Tier-II certification. Similar engines permitted in 2005 at Inland Empire Energy Center (facility ID 129816) were equipped with diesel particulate filters (DPF). Therefore, use of DPF for control of particulate emissions is considered achieved in practice, and considered LAER. The engine is required to meet Tier-II certification, and be equipped with a DPF. Compliance is achieved.

- Modeling and offset

Offset and modeling for this engine is not required because it is an emergency equipment as defined in Rule 1304(a)(4). Because the facility will retire an old generator A/N385185 it also qualifies for the offset exemption provided in Rule 1304(a)(1).

Rule 1401 – New Source Review of Toxic Air Contaminants

The emergency IC engine is exempted from this rule per Rule 1304(g)(1)(F).

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Rule 1470 – Emissions from Gaseous and Liquid Fueled Engines

The requirement for an engine greater than 750 bhp is to comply with the emission standards of a Tier II engine. This engine is a certified Tier II engine. Compliance is demonstrated.

Based on the PM10 emission rate of 0.015 gram/bhp-hr the engine is subject to the limit of 50 hours of testing and maintenance per year.

Regulation XVII – Prevention of Significant Deterioration (PSD)

The subject facility is not a major source and is not subject to PSD

Regulation XX – RECLAIM

The facility is not a RECLAIM facility.

Regulation XXX – Title V

The facility is a Title V facility. The proposed change of conditions is considered a minor revision to the facility permit. The draft permit and the engineering evaluation will be submitted to EPA for a 45-day review.

RECOMMENDATION

It is recommended that the application be approved subject to the following conditions.

CONDITION

1. Operation of this equipment shall be conducted in accordance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.
2. This equipment shall be properly maintained and kept in good operating condition at all times.
3. This engine shall not be operated more than 200 hours in any one year, which includes no more than 50 hours in any one year for maintenance and testing and no more.
4. An operational non-resettable totalizing time meter shall be installed and maintained to indicate the engine elapsed operating time.
5. The operation of engine beyond the 50 hours per year allotted for engine maintenance and testing shall be allowed only in the event of a loss of grid power or up to 30 minutes prior

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to a rotating outage, provided that the electrical grid operator or electric utility has ordered rotating outages in the control area where the engine is located or has indicated that it expects to issue such an order at a certain time, and the engine is located in a utility service block that is subject to the rotating outage. Engine operation shall be terminated immediately after the utility distribution company advises that a rotating outage is no longer imminent or in effect.

6. This engine shall not be used as part of a demand response program using interruptible service contract in which a facility receives a payment or reduced rates in return for reducing its electric load on the grid when requested to so by the utility or the grid operator.
7. On or before January 15th of each year the operator shall record in the engine operating log:
 - A. The total hours of engine operation for the previous calendar year, and
 - B. The total hours of engine operation for maintenance and testing for the previous calendar year.

Engine operation log(s) shall be retained on site for a minimum of five calendar years and shall be made available to the executive officer or representative upon request.

8. The operator shall keep a log of engine operations documenting the total time the engine is operated each month and the specific reason for operation as:
 - A. Emergency Use
 - B. Maintenance and testing
 - C. Other (be specific).

In addition, for each time the engine is manually started, the log shall include the date of engine operation, the specific reason for operation, and the totalizing hour meter reading (in hours and tenths of hours) at the beginning and the end of the operation.

9. The operator shall comply with all applicable requirements of rules 431.2 and 1470. The sulfur content of diesel fuel supplied to the engine shall not exceed 15ppm by weight.
10. This engine shall not be operated unless its exhaust is vented to the diesel particulate filter which shall be in full operation and in good operating condition at all times.
11. This engine shall operate at the load level required to achieve a minimum exhaust temperature (for filter regeneration) of 240 degrees Celsius (464 degrees Fahrenheit) for a minimum of 40% of the engine's operating time.
12. Regeneration of the catalyst shall be performed after 24 consecutive cold start-ups and 30-minute idle sessions.
13. After 6 months normal engine operation, the operator shall inspect the integrity of the filter and, if necessary, replace it.

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14. The operator shall keep records of particulate filter inspections, replacements, and manual regenerations. The operator shall maintain these records for a minimum of two years and shall be made available to the executive officer upon request.