



South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

August 21, 2012

Mr. Gerardo Rios
Chief – Permits Office
U. S. EPA, Region IX
75 Hawthorne Street, Air 3
San Francisco, CA 94105

Dear Mr. Rios:

**Subject: Long Beach Memorial Medical Center (ID 14213) – Title V Permit
Revision (Application No. 525630)**

Long Beach Memorial Medical Center has proposed to revise their Title V permit under A/N 525630 by correcting the horsepower rating on one emergency diesel engine, and increasing the allowable hours of operation for two other emergency diesel engines. This is a medical care facility (SIC 8060) located at 2801 Atlantic Ave, Long Beach, CA 90806. This proposed permit revision is considered as a “de minimis permit revision” to their Title V permit. Attached for your review are the permit evaluation and proposed Section D. With your receipt of the proposed Section D today, we will note that the EPA 45-day review period begins on August 21, 2012.

If you have any questions or need additional information regarding the proposed permit revision, please call Chris Perri at (909) 396-2696.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Brian L. Yeh', is written over a large, stylized, light-colored scribble or watermark.

Brian L. Yeh
Senior Manager
Chemical, Mechanical & Public Services

BLY:AYL:JTY:cgp

Attachments

FACILITY PERMIT TO OPERATE LONG BEACH MEMORIAL MEDICAL CENTER

PERMIT TO CONSTRUCT

A/N 525611

Equipment Description:

INTERNAL COMBUSTION ENGINE, ISUZU, EMERGENCY ELECTRICAL GENERATION, MODEL NO. BB-4JG1T, DIESEL-FUELED, 4 CYLINDERS, TURBOCHARGED, 55 BHP.

Conditions:

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.
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]
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 AND 4.2 HOURS IN ANY ONE MONTH FOR MAINTENANCE AND TESTING PURPOSES.
[RULE 1110.2, RULE 1304 (a), RULE 1470]
4. AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER SHALL BE INSTALLED AND MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.
[RULE 1110.2, RULE 1304 (a)]
5. AN ENGINE OPERATING LOG SHALL BE KEPT AND MAINTAINED ON FILE TO RECORD WHEN THIS ENGINE IS STARTED MANUALLY. THE LOG SHALL LIST THE DATE OF OPERATION, THE TIMER READING IN HOURS AT THE BEGINNING AND END OF OPERATION, AND THE REASON FOR OPERATION FOR A MINIMUM OF TWO CALENDAR YEARS PRIOR TO THE CURRENT YEAR AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST. THE TOTAL HOURS OF OPERATION (INCLUDE HOURS FOR MANUAL AND AUTOMATIC OPERATION) SHALL BE RECORDED SOMETIME DURING THE FIRST 15 DAYS OF JANUARY OF EACH YEAR.
[RULE 1110.2, RULE 1304 (a)]

FACILITY PERMIT TO OPERATE LONG BEACH MEMORIAL MEDICAL CENTER

6. OPERATION OF THE 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 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.
[RULE 1304 (a)]
7. THE ENGINE SHALL MEET ALL APPLICABLE REQUIREMENTS OF RULES 431.2 AND 1470.
[RULE 1470, RULE 431.2]
8. THE ENGINE OIL AND FILTER SHALL BE CHANGED EVERY 500 HOURS OF OPERATION OR ANNUALLY WHICHEVER COMES FIRST, OR IN ACCORDANCE WITH AN OIL ANALYSIS PROGRAM AS SPECIFIED IN 40 CFR 63.6625(j). THE ENGINE HOSES AND BELTS SHALL BE INSPECTED EVERY 500 HOURS OR ANNUALLY WHICHEVER COMES FIRST, AND THE ENGINE AIR FILTER SHALL BE CLEANED EVERY 1000 HOURS OR ANNUALLY WHICHEVER COMES FIRST.
[40 CFR63. SUBPART ZZZZ]

Emissions And Requirements:

9. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

PM: RULE 404, SEE APPENDIX B FOR THE EMISSION LIMITS

FACILITY PERMIT TO OPERATE LONG BEACH MEMORIAL MEDICAL CENTER

PERMIT TO CONSTRUCT

A/N 525606

Equipment Description:

INTERNAL COMBUSTION ENGINE, CUMMINS, EMERGENCY ELECTRICAL GENERATION, MODEL NO. QST30-G5, DIESEL-FUELED, 12 CYLINDERS, TURBOCHARGED, AFTERCOOLED, 1,490 BHP.

Conditions:

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.
[RULE 204]
 2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]
 3. THIS ENGINE SHALL NOT BE OPERATED MORE THAN 200 HOURS IN ANY ONE YEAR IN CASE OF AN EMERGENCY. WHICH INCLUDES NO MORE THAN 50 HOURS IN ANY ONE YEAR AND 4.2 HOURS IN ANY ONE MONTH FOR MAINTENANCE AND TESTING.
[RULE 1110.2, RULE 1304 (a), RULE 1470]
 4. AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER SHALL BE INSTALLED AND MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.
[RULE 1110.2, RULE 1304 (a)]
 6. 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.
[RULE 1110.2, RULE 1304 (a)]
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).

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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.

[RULE 1110.2, RULE 1304 (a)]

9. OPERATION OF THE ENGINE BEYOND THE 50 HOURS PER YEAR COMBINED ALLOTTED FOR ENGINES MAINTENANCE AND TESTING SHALL BE ALLOWED ONLY IN THE EVENT OF A LOSS OF GRID POWER OR UP TO 30 MINUTES PRIOR 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.
[RULE 1304 (a)]
10. THE ENGINE SHALL MEET ALL APPLICABLE REQUIREMENTS OF RULES 431.2 AND 1470.
[RULE 1470, RULE 431.2]
11. 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.
[RULE 1110.2, RULE 1304 (a)]
12. THE ENGINE OIL AND FILTER SHALL BE CHANGED EVERY 500 HOURS OF OPERATION OR ANNUALLY WHICHEVER COMES FIRST, OR IN ACCORDANCE WITH AN OIL ANALYSIS PROGRAM AS SPECIFIED IN 40 CFR 63.6625(j). THE ENGINE HOSES AND BELTS SHALL BE INSPECTED EVERY 500 HOURS OR ANNUALLY WHICHEVER COMES FIRST, AND THE ENGINE AIR FILTER SHALL BE CLEANED EVERY 1000 HOURS OR ANNUALLY WHICHEVER COMES FIRST.
[40 CFR63. SUBPART ZZZZ]

Emissions And Requirements:

13. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

PM: RULE 404, SEE APPENDIX B FOR THE EMISSION LIMITS

FACILITY PERMIT TO OPERATE LONG BEACH MEMORIAL MEDICAL CENTER

PERMIT TO CONSTRUCT

A/N 525607

Equipment Description:

INTERNAL COMBUSTION ENGINE, CUMMINS, EMERGENCY ELECTRICAL GENERATION, MODEL NO. QST30-G5, DIESEL-FUELED, 12 CYLINDERS, TURBOCHARGED, AFTERCOOLED, 1,490 BHP.

Conditions:

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.
[RULE 204]
 2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]
 3. THIS ENGINE SHALL NOT BE OPERATED MORE THAN 200 HOURS IN ANY ONE YEAR IN CASE OF AN EMERGENCY, WHICH INCLUDES NO MORE THAN 50 HOURS IN ANY ONE YEAR AND 4.2 HOURS IN ANY ONE MONTH FOR MAINTENANCE AND TESTING.
[RULE 1110.2, RULE 1304 (a), RULE 1470]
 4. AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER SHALL BE INSTALLED AND MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.
[RULE 1110.2, RULE 1304 (a)]
 6. 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.
[RULE 1110.2, RULE 1304 (a)]
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).

FACILITY PERMIT TO OPERATE LONG BEACH MEMORIAL MEDICAL CENTER

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.

[RULE 1110.2, RULE 1304 (a)]

9. OPERATION OF THE ENGINE BEYOND THE 50 HOURS PER YEAR COMBINED ALLOTTED FOR ENGINES MAINTENANCE AND TESTING SHALL BE ALLOWED ONLY IN THE EVENT OF A LOSS OF GRID POWER OR UP TO 30 MINUTES PRIOR 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.
[RULE 1304 (a)]
10. THE ENGINE SHALL MEET ALL APPLICABLE REQUIREMENTS OF RULES 431.2 AND 1470.
[RULE 1470, RULE 431.2]
11. 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.
[RULE 1110.2, RULE 1304 (a)]
12. THE ENGINE OIL AND FILTER SHALL BE CHANGED EVERY 500 HOURS OF OPERATION OR ANNUALLY WHICHEVER COMES FIRST, OR IN ACCORDANCE WITH AN OIL ANALYSIS PROGRAM AS SPECIFIED IN 40 CFR 63.6625(j). THE ENGINE HOSES AND BELTS SHALL BE INSPECTED EVERY 500 HOURS OR ANNUALLY WHICHEVER COMES FIRST, AND THE ENGINE AIR FILTER SHALL BE CLEANED EVERY 1000 HOURS OR ANNUALLY WHICHEVER COMES FIRST.
[40 CFR63. SUBPART ZZZZ]

Emissions And Requirements:

13. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

PM: RULE 404, SEE APPENDIX B FOR THE EMISSION LIMITS



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PERMIT TO OPERATE EVALUATION

APPLICANT:

Long Beach Memorial Medical Center
2801 Atlantic Ave
Long Beach, CA 90806

EQUIPMENT LOCATION:

2801 Atlantic Ave
Long Beach, CA 90806

EQUIPMENT DESCRIPTION:

A/N 525606 (previous G4482, 494126)

INTERNAL COMBUSTION ENGINE, CUMMINS, EMERGENCY ELECTRICAL GENERATION, MODEL NO. QST30-G5, DIESEL FUELED, 12 CYLINDERS, TURBOCHARGED, AFTERCOOLED, 1490 BHP.

A/N 525607 (previous G4483, 494131)

INTERNAL COMBUSTION ENGINE, CUMMINS, EMERGENCY ELECTRICAL GENERATION, MODEL NO. QST30-G5, DIESEL FUELED, 12 CYLINDERS, TURBOCHARGED, AFTERCOOLED, 1490 BHP.

A/N 525611 (previous F98635, 483304)

INTERNAL COMBUSTION ENGINE, ISUZU, EMERGENCY ELECTRICAL GENERATION, MODEL NO. BB-4JGIT, DIESEL FUELED, 4 CYLINDERS, TURBOCHARGED, 55 65 BHP.

BACKGROUND:

On July 15, 2011 Long Beach Memorial submitted applications to make modifications to 3 of their IC engine permits. The modifications include an administrative revision to change the listed hp rating on 1 engine (A/N 525611), and to update the conditions on 2 other engines to allow up to 50 hrs/yr operation and to reflect current Rule 1470 requirements (A/N's 525606 and 525607).

These engines are currently limited to 31 hrs/yr combined operation and no more than 2.58 hrs/month for testing purposes. These conditions were imposed on the permit when the engines were originally permitted in 2009 due to a Federal court ruling which restricted the use of



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AQMD's Regulation XIII offset exemptions under Rule 1304 (this was the so called 'permit moratorium'). The facility accepted the hourly limitations to minimize the emissions and to avoid having to provide too many ERCs (the facility did have to provide 1 lb/day of NOx ERCs).

Since the permit moratorium is over, the hourly limitations can now be removed, and the increase in emissions is exempted under Rule 1304 – Emergency Equipment.

PROCESS DESCRIPTION:

These are emergency diesel generator engines. Two of the units are identical Cummins engines rated at 1490 bhp. The other is an Isuzu engine rated at 55 hp. Following are the engine specifications:

A/N's 525606, 525607

Engine Manufacturer	Cummins Cal Pacific
Model Number	QST30-G5
Maximum Rating	1490 hp @ 1800 rpm
Maximum Fuel Consumption	72.2 gallons per hour
Maximum Exhaust Flow	7540 cfm
Exhaust Temperature	890 °F
Configuration	12 cylinder, 2 cycle, turbocharged

A/N 525611

Engine Manufacturer	Isuzu
Model Number	BB-4JG-1T
Maximum Rating	55 hp @ 1800 rpm
Maximum Fuel Consumption	2.98 gallons per hour
Maximum Exhaust Flow	175 cfm
Exhaust Temperature	860 °F
Configuration	4 cylinder, 4 cycle, turbocharged

EMISSIONS:

The emissions of all pollutants on a 30 day average and annual basis will be increasing for the 2 Cummins engines due to the increase in monthly and annual allowable operating time. Maximum hourly emissions will not change.

Although the new emission calculations for the Isuzu engine are less than the previous calculations, technically there is no change in emissions because the listed engine hp rating is an error which is being corrected. The actual hp has not changed from when the permit was originally issued. The previous NSR emissions will be updated to reflect the revised calculations.



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A/N 525606 (previous G4482, 494126) and A/N 525607 (previous G4483, 494131)

These are identical EPA certified Tier 2 engines. Emission factors are taken from the AQMD certification file (A/N 455112).

Pollutant	EF uncontrolled (g/bhp-hr)	EF controlled (g/bhp-hr)
RHC	0.22	0.22
NOx	4.4	4.4
SOx	0.005	0.005
CO	0.52	0.52
PM10	0.08	0.08

Current Emissions

Pollutant	Maximum Emissions, Uncontrolled		Maximum Emissions, Controlled		30 Day Average Emissions	Annual Emissions
	Lbs/hr	lbs/day	Lbs/hr	Lbs/day	lbs/day	lbs/yr
RHC	0.72	17.33	0.72	17.33	0.02	22
NOx	14.44	346.57	14.44	346.57	0.48	448
SOx	0.02	0.39	0.02	0.39	0.00	1
CO	1.71	40.96	1.71	40.96	0.06	53
PM10	0.26	6.30	0.26	6.30	0.01	8

Notes:

Maximum daily emissions are based on 24 hrs/day operation

30 day average emissions are based on 31 hours/yr or 1.0 hours per month operation.

Annual emissions are based on 31 hrs/yr

Proposed New Emissions

Pollutant	Maximum Emissions, Uncontrolled		Maximum Emissions, Controlled		30 Day Average Emissions	Annual Emissions
	Lbs/hr	lbs/day	Lbs/hr	Lbs/day	lbs/day	lbs/yr
RHC	0.72	17.33	0.72	17.33	0.10	36
NOx	14.44	346.57	14.44	346.57	2.02	722
SOx	0.02	0.39	0.02	0.39	0.00	1
CO	1.71	40.96	1.71	40.96	0.24	85
PM10	0.26	6.30	0.26	6.30	0.04	13

Notes:

Maximum daily emissions are based on 24 hrs/day operation

30 day average emissions are based on 50 hours/yr or 4.2 hours per month operation.

Annual emissions are based on 50 hrs/yr



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Increases

Pollutant	Emission Increases	
	30 Day Average	Annual
RHC	0.08	14
NOx	1.54	274
SOx	0	0
CO	0.18	32
PM10	0.03	5

A/N 525611 (previous F98635, 483304)

This is an EPA certified Tier 2 engine. Emission factors are taken from the previous file.

Pollutant	EF uncontrolled (g/bhp-hr)	EF controlled (g/bhp-hr)
RHC	1	1
NOx	4.29	4.29
SOx	0.005	0.005
CO	0.89	0.89
PM10	0.14	0.14

Pollutant	Maximum Emissions, Uncontrolled		Maximum Emissions, Controlled		30 Day Average Emissions	Annual Emissions
	Lbs/hr	lbs/day	Lbs/hr	Lbs/day	lbs/day	lbs/yr
RHC	0.12	2.91	0.12	2.91	0.02	6.1
NOx	0.52	12.47	0.52	12.47	0.07	26.0
SOx	0.00	0.01	0.00	0.01	0.00	0.0
CO	0.11	2.59	0.11	2.59	0.02	5.4
PM10	0.02	0.41	0.02	0.41	0.00	0.8

Notes:

Maximum daily emissions are based on 24 hrs/day operation

30 day average emissions are based on 50 hours/yr or 4.2 hours per month operation.

Annual emissions are based on 50 hrs/yr

EVALUATION:

Rule 212 – Standards for Approving Permits

There are no schools within 1000 feet from the proposed equipment. Emissions do not exceed the daily threshold limits of the rule, and the cancer risk is less than 1 in a million (based on experience with similar engines of this size operating 50 hrs/yr or less). Therefore, no public notice is required.



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Rule 401 – Visible Emissions

Visible emissions violations are not expected.

Rule 402 – Nuisance

Nuisance problems are not expected.

Rule 404 – Particulate Matter Concentration

This rule restricts the discharge of PM from the engine, with the limit being based on the exhaust flow. Approximate exhaust flow for the Cummins engines is about 7540 dscfm. At this exhaust flow rate, the Rule 404 limit is about 0.09 gr/scf. Approximate exhaust flow for the Isuzu engine is about 175 cfm. The limit at this exhaust flow is 0.196 gr/scf. The engines are expected to comply with the limits based on the following calculation:

Cummins Engines

$$(0.26 \text{ lbs/hr} * 7000 \text{ gr/lb}) / (7540 * 60) \text{ dscfh} = 0.004 \text{ gr/scf}$$

Isuzu Engine

$$(0.02 \text{ lbs/hr} * 7000 \text{ gr/lb}) / (175 * 60) \text{ dscfh} = 0.013 \text{ gr/scf}$$

Rule 431.2 – Sulfur Content of Liquid Fuels

The applicant is expected to comply with the requirements that the maximum sulfur content of diesel fuel used in these engines cannot exceed 500 ppm, if the fuel was purchased prior to June 1, 2004, and that only 15 ppm sulfur fuel can be purchased after June 1, 2004.

Rule 1110.2 – IC Engines

Emergency engines are exempt from this rule by paragraph (i)(2).

Regulation XIII – New Source Review

There is a 1.54 lb/day increase in the 30 Day Average NOx emissions for each of the Cummins engines. The emissions are exempt from offsets and modeling under Rule 1304(a)(4)-Emergency Equipment. There is no emissions increase on a maximum daily basis, therefore no new BACT analysis is required. There are no emissions increases for the Isuzu engine.

Rule 1401 – Carcinogenic Air Contaminants

Emergency engines are exempt from this rule by paragraph (g)(F). Toxic emissions are calculated in Appendix A for Rule 212 purposes.

Rule 1470 – Air Toxics Control Measure

This rule, adopted on April 2, 2004, applies to existing and new diesel engines, both emergency and non-emergency, portable and stationary. Requirements include specifying that new engines must meet the Off Road Compression-Ignition Standards (Title 13, CCR section 2423) for NOx, ROG, and CO emissions, limiting the PM emissions for all new and existing engines, and restricting the use of emergency engines, especially those near schools.

The rule requires the following for this engine:



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1. CARB diesel only
2. Operation limited to no more than 50 hours/yr for maintenance and testing (since the PM emission rates are less than 0.15 g/bhp-hr)
3. Install a non-resettable operating time meter
4. Maintain an engine operating hours log book

The engine will be conditioned accordingly, and compliance is expected. There is no school within 100 meters of the equipment.

Regulation XX – Reclaim

The facility is not subject to Reclaim.

40 CFR63 – Subpart ZZZZ -NESHAPS for Reciprocating Engines

The facility operates only emergency diesel engines, which are all classified as existing under the rule (constructed prior to 6/1/2006). The facility is an area source (see Appendix B). The requirements for existing emergency engines (CI or SI) at an area source regardless of HP are 1) change the oil/filter and inspect hoses and belts every 500 hours or annually, and 2) inspect the air cleaner every 1000 hours or annually. The facility is also allowed to conduct an oil analysis program as an alternative to changing the oil every 500 hours.

Regulation XXX – Title V

The facility is subject to Title V. The initial Title V permit was issued on May 25, 2005, and expired on May 24, 2010. The Title V permit was renewed on October 26, 2011 under A/N 525605.

The modifications to the 3 emergency generators is considered a de-minimis significant revision to the Title V permit because the increase in emissions from the longer operating hours being allowed for the Cummins engines are below the thresholds of a significant revision. The facility has not had any other de minimis significant revisions to their permit since the last permit renewal (only 2 administrative revisions). As a de minimis significant revision, the proposed permit is subject to a 45 day review and comment period by US EPA. Note that the applications are not being considered significant revisions under Rule 3000(31)(J) because the engines are existing units already subject to the RICE MACT as of the 2010 (< 500 hp at an area source). Therefore the emission increase for the 2 Cummins engines does not result in a 'new or additional' NESHAPs requirement.

RECOMMENDATION:

The condition limiting the 2 Cummins engines to 31 hrs/yr should be removed and a 50 hr/yr limit should be added for each engine. Also, conditions 4 and 6 can be removed, and the language in conditions 6 and 9 should be modified as reflected below.

After the 45 day EPA review and comment period, a Permit to Operate can be issued subject to the following conditions.



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CONDITIONS:

A/N 525606 (previous G4482, 494126) and A/N 525607 (previous G4483, 494131)

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.
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]
3. THIS ENGINE SHALL NOT BE OPERATED MORE THAN 200 HOURS IN ANY ONE YEAR IN CASE OF AN EMERGENCY, **WHICH INCLUDES NO MORE THAN 50 HOURS IN ANY ONE YEAR AND 4.2 HOURS IN ANY ONE MONTH FOR MAINTENANCE AND TESTING.**
[RULE 1110.2, RULE 1304 (a), RULE 1470]
- ~~4. THE ENGINES OPERATING UNDER APPLICATION NUMBERS 494126 AND 494131 SHALL NOT BE OPERATED MORE THAN COMBINED 31 HOURS IN ANY ONE YEAR FOR MAINTENANCE AND TESTING PURPOSES AND NO MORE THAN 2.58 HOURS IN ANY ONE CALENDAR MONTH FOR MAINTENANCE AND TESTING PURPOSES.
[RULE 1110.2, RULE 1304 (a), RULE 1470]~~
5. AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER SHALL BE INSTALLED AND MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.
[RULE 1110.2, RULE 1304 (a)]
6. ~~A CHART RECORDER SHALL BE INSTALLED AND MAINTAINED TO RECORD THE DATE AND TIME THE ENGINES OPERATING UNDER APPLICATION NUMBERS 494126 AND 494131 ARE IS OPERATED FOR MAINTENANCE AND TESTING IN A CALENDAR MONTH. THE RECORDS SHALL BE KEPT AND MAINTAINED ON FILE FOR A MINIMUM OF FIVE YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.
[RULE 1110.2, RULE 1304 (a), RULE 1470]~~
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



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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.
[RULE 1110.2, RULE 1304 (a)]

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.
[RULE 1110.2, RULE 1304 (a)]

9. OPERATION OF THE ENGINES ~~OPERATING UNDER APPLICATION NUMBERS 494126 & 494131~~ BEYOND THE ~~34~~ 50 HOURS PER YEAR ~~COMBINED~~ ALLOTTED FOR ENGINES MAINTENANCE AND TESTING SHALL BE ALLOWED ONLY IN THE EVENT OF A LOSS OF GRID POWER OR UP TO 30 MINUTES PRIOR 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.
[RULE 1304 (a)]

10. THE ENGINE SHALL MEET ALL APPLICABLE REQUIREMENTS OF RULES 431.2 AND 1470.
[RULE 1470, RULE 431.2]

11. 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.
[RULE 1110.2, RULE 1304 (a)]



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12. THE ENGINE OIL AND FILTER SHALL BE CHANGED EVERY 500 HOURS OF OPERATION OR ANNUALLY WHICHEVER COMES FIRST, OR IN ACCORDANCE WITH AN OIL ANALYSIS PROGRAM AS SPECIFIED IN 40 CFR 63.6625(j). THE ENGINE HOSES AND BELTS SHALL BE INSPECTED EVERY 500 HOURS OR ANNUALLY WHICHEVER COMES FIRST, AND THE ENGINE AIR FILTER SHALL BE CLEANED EVERY 1000 HOURS OR ANNUALLY WHICHEVER COMES FIRST.
[40 CFR63. SUBPART ZZZZ]

Emissions And Requirements:

1. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

PM: RULE 404, SEE APPENDIX B FOR THE EMISSION LIMITS

A/N 525611 (previous F98635, 483304)

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.
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]
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 AND 4.2 HOURS IN ANY ONE MONTH FOR MAINTENANCE AND TESTING PURPOSES.
[RULE 1110.2, RULE 1304 (a), RULE 1470]
4. AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER SHALL BE INSTALLED AND MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.
[RULE 1110.2, RULE 1304 (a)]



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5. AN ENGINE OPERATING LOG SHALL BE KEPT AND MAINTAINED ON FILE TO RECORD WHEN THIS ENGINE IS STARTED MANUALLY. THE LOG SHALL LIST THE DATE OF OPERATION, THE TIMER READING IN HOURS AT THE BEGINNING AND END OF OPERATION, AND THE REASON FOR OPERATION FOR A MINIMUM OF TWO CALENDAR YEARS PRIOR TO THE CURRENT YEAR AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST. THE TOTAL HOURS OF OPERATION (INCLUDE HOURS FOR MANUAL AND AUTOMATIC OPERATION) SHALL BE RECORDED SOMETIME DURING THE FIRST 15 DAYS OF JANUARY OF EACH YEAR.
[RULE 1110.2, RULE 1304 (a)]
6. OPERATION OF THE 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 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.
[RULE 1304 (a)]
7. THE ENGINE SHALL MEET ALL APPLICABLE REQUIREMENTS OF RULES 431.2 AND 1470.
[RULE 1470, RULE 431.2]
8. THE ENGINE OIL AND FILTER SHALL BE CHANGED EVERY 500 HOURS OF OPERATION OR ANNUALLY WHICHEVER COMES FIRST, OR IN ACCORDANCE WITH AN OIL ANALYSIS PROGRAM AS SPECIFIED IN 40 CFR 63.6625(j). THE ENGINE HOSES AND BELTS SHALL BE INSPECTED EVERY 500 HOURS OR ANNUALLY WHICHEVER COMES FIRST, AND THE ENGINE AIR FILTER SHALL BE CLEANED EVERY 1000 HOURS OR ANNUALLY WHICHEVER COMES FIRST.
[40 CFR63. SUBPART ZZZZ]

Emissions And Requirements:

1. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

PM: RULE 404, SEE APPENDIX B FOR THE EMISSION LIMITS



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Appendix A

Application Submittal and Fees

The ICE engine permit modification applications were submitted as part of a bigger package from Long Beach Memorial which includes applications to retrofit a boiler, a revised 1146 Plan, and a pressure washer. The complete package submittal is summarized below:

A/N	Submittal Date	Equip	Bcat	Fee Sch	Fee
525606	7/15/11	Emergency ICE	043902	A	\$1,052.18
525607	7/15/11	Emergency ICE	043902	A	562.09
525611	7/15/11	Emergency ICE	043901	A	694.16
525633	7/15/11	Pressure Washer	015102	A	1332.65
525727	7/26/11	Rule 1146 Plan	666093		1108.36
525729	7/26/11	Boiler	011003	C	523.19
525630	7/15/11	Title V Revision	555008		873.58
				Total	\$6,146.21



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Appendix B

Facility Total Toxic Emissions for NESHAPs Determination

The facility operates the following equipment:

Boiler 19.86 mmbtu/hr natural gas fired
 Boiler 19.86 mmbtu/hr natural gas fired
 Boiler 19.86 mmbtu/hr natural gas fired
 Emergency Engine 890 HP
 Emergency Engine 535 HP
 Emergency Engine 685 HP
 Emergency Engine 685 HP
 Emergency Engine 685 HP
 Emergency Engine 685 HP
 Emergency Engine 1490 HP
 Emergency Engine 1490 HP
 Emergency Engine 55 HP
 Ethylene Oxidizer (4 w/control)

1. Boiler Toxic Emissions

Toxic Emissions for the boilers are based on the Ventura County APCD AB2588 External Combustion Emission Factors, May 17, 2001 for boilers between 10-100 mmbtu/hr.

Boiler Data:

Maximum heat input 19.86 mmbtu/hr
 Maximum fuel use 0.019 mmcf/hr (based on 1020 btu/cf)
 Annual hours of operation 8760 hours

Toxic Pollutant Emissions

Pollutant	Emission Factors lbs/mmcf	Emissions, Total 3 Boilers (lbs/hr)	Emissions, Total 3 Boilers (lbs/yr)
Toluene	2.65E-02	1.51E-03	1.32E+01
Xylenes	1.97E-02	1.12E-03	9.84E+00
Naphthalene	3E-04	1.71E-05	1.50E-01
PAH	1E-04	5.70E-06	4.99E-02
Acrolein	2.7E-03	1.54E-04	1.35E+00
Acetaldehyde	3.1E-03	1.77E-04	1.55E+00



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Benzene	5.8E-03	3.31E-04	2.90E+00
Formaldehyde	1.23E-02	7.01E-04	6.14E+00
Propylene	5.300E-01	3.02E-02	2.65E+02
ethy benzene	6.9E-03	3.93E-04	3.45E+00
Hexane	4.6E-03	2.62E-04	2.30E+00
		Total, lbs/yr	306
		Total, tpy	0.15

2. Engine Toxic Emissions

The estimated toxic emissions from the engines are based on factors from CARB's database, CATEF. Maximum annual PTE emissions are based on 50 hours per year operation at full load. For simplicity the HP from all the engines will be summed to estimate the total fuel use.

Engine Data:

Total HP for all engines 8,805 HP
 Engine efficiency (assumed) 28%
 Diesel heat content 139,000 btu/gal
 HP to Btu conversion 1 HP = 42.44 btu/min

$$8805 * (42.44) / 0.28 = 1,334,586 \text{ btu/min}$$

$$1,334,586 * (60) / 139,000 = 576 \text{ gal/hr}$$

Pollutant	Emission Factor	Hourly Emissions	Annual Emissions
	Lbs/mgal	Lbs/hr	Lbs/yr
Acetaldehyde	1.52E-01	8.76E-02	4.38E+00
Acrolein	3.16E-02	1.82E-02	9.10E-01
Benzene	3.30E-01	1.90E-01	9.50E+00
Butadiene, 1,3-	5.41E-03	3.12E-03	1.56E-01
Ethyl benzene	8.03E-03	4.63E-03	2.31E-01
Formaldehyde	2.23E+00	1.28E+00	6.42E+01
PAHs	4.70E-02	2.71E-02	1.35E+00
Napthalene	1.58E-01	9.10E-02	4.55E+00
Toluene	1.11E-01	6.39E-02	3.20E+00
Xylenes	4.44E-02	2.56E-02	1.28E+00
		Total, lbs/yr	89.8
		Total, tpy	0.045

3. Ethylene Oxidizer Toxic Emissions

The permit evaluations for the 4 ethylene oxidizers (A/N's 305182-5) show calculated ethylene oxide emissions of 0.0156 lbs/yr each unit for a total of 0.0624 lbs/yr.