

A

BOOKING RECORD

DATE	FR	TO	ACTION
10/26/07	A	J	Transfer
10/30/07	ADP	GRP	Prescreen
10/31/07	GRP		I C/C Accept
11/02/07	GRP	ADP	PO Recm
2-28-08	ADP	GRP	PO Approval

REFERENCE TO OTHER A/C RECORDS INCLUDING VARIANCES

795584

PC

ORANGE COUNTY SANITATION DISTRICT  
ICE

AP474766  
ID 29110

APPL # 474766

I.D. # 29110

ORANGE COUNTY SANITATION DISTRICT

22212 BROOKHURST ST

HUNTINGTON BEACH

ICE

Date: 10/19/07



**PERMIT TO OPERATE**

This initial permit must be renewed ANNUALLY unless the equipment is moved, or changes ownership.  
If the billing for the annual renewal fee (Rule 301.f) is not received by the expiration date, contact the District.

Legal Owner  
or Operator:

ORANGE COUNTY SANITATION DISTRICT  
P O BOX 8127  
FOUNTAIN VALLEY, CA 92728-8127

ID 29110

**Equipment Location:** 22212 BROOKHURST ST, HUNTINGTON BEACH, CA 92646-8457

**Equipment Description :**

INTERNAL COMBUSTION ENGINE, NO. 2 AT PB-C, CATERPILLAR, COMPRESSION-IGNITION, FOUR STROKE, TURBOCHARGED-AFTERCOOLED, V-12 TYPE, MODEL NO. 3512, SERIAL NUMBER 24Z01547, 1482 HP, DIESEL OIL-FIRED, DRIVING A 1000 KW EMERGENCY ELECTRICAL GENERATOR.

**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.
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
3. THIS ENGINE SHALL NOT OPERATE MORE THAN 200 HOURS IN ANY ONE YEAR, WHICH INCLUDES NO MORE THAN 30 HOURS IN ANY ONE YEAR FOR MAINTENANCE AND TESTING PURPOSES.
4. AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER SHALL BE INSTALLED AND MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.
5. THE OPERATION OF THE ENGINE BEYOND 30 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. ENGINE OPERATION SHALL BE TERMINATED IMMEDIATELY AFTER THE UTILITY DISTRIBUTION COMPANY ADVISES THAT A ROTATING OUTAGE IS NO LONGER IMMINENT OR IN EFFECT.



AQMD

## PERMIT TO OPERATE

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. AN ENGINE OPERATING LOG SHALL BE MAINTAINED WHICH ON A MONTHLY BASIS SHALL LIST ALL ENGINE OPERATIONS IN EACH OF THE FOLLOWING AREAS:
  - A. EMERGENCY USE HOURS OF OPERATION
  - B. MAINTENANCE AND TESTING HOURS
  - C. OTHER OPERATING HOURS (DESCRIBE THE REASON FOR OPERATION)IN ADDITION, EACH TIME THE ENGINE IS STARTED MANUALLY, THE LOG SHALL INCLUDE THE DATE OF OPERATION AND THE TIMER READING IN HOURS AT THE BEGINNING AND END OF OPERATION THE LOG SHALL BE KEPT FOR A MINIMUM OF FIVE CALENDAR YEARS PRIOR TO THE CURRENT YEAR AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST. THE TOTAL HOURS OF OPERATION FOR THE PREVIOUS CALENDAR YEAR SHALL BE RECORDED SOMETIME DURING THE FIRST 15 DAYS OF JANUARY OF EACH YEAR.
8. THE OPERATOR SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF RULES 431.2 AND 1470.

### NOTICE

IN ACCORDANCE WITH RULE 206, THIS PERMIT TO OPERATE OR COPY SHALL BE POSTED ON OR WITHIN 8 METERS OF THE EQUIPMENT.

THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26 OF THE HEALTH AND SAFETY CODE OF THE STATE OF CALIFORNIA OR THE RULES OF THE AIR QUALITY MANAGEMENT DISTRICT. THIS PERMIT CANNOT BE CONSIDERED AS PERMISSION TO VIOLATE EXISTING LAWS, ORDINANCES, REGULATIONS OR STATUTES OF OTHER GOVERNMENT AGENCIES.

EXECUTIVE OFFICER

By Dorris M. Bailey/GR01

2/27/2008

FILE COPY



South Coast Air Quality Management District

Form 400-A

Application For Permit To Construct and Permit To Operate

Mail Application To: P.O. Box 4944 Diamond Bar, CA 91765

Tel: (909) 396-3385 www.aqmd.gov

\* PO Box is ok for Tadeo Vitko 10/23/07

Section A: Operator Information

1. Business Name of Operator To Appear On The Permit: Orange County Sanitation District
2. Valid AQMD Facility ID (Available on Permit of Invoice Issued by AQMD): 029110
3. Owner's Business Name (only if different from Business Name of Operator):

Section B: Equipment Location

4. Equipment Location Address: 22212 Brookhurst Street, Huntington Beach, CA, 92646
Contact Name: Vladimir Kogan
Contact Title: Senior Scientist
Phone: (714) 593-7085
Fax: (714) 962-8379
E-Mail: vkogan@ocsd.com

Section C: Permit Mailing Address

5. Permit and Correspondence Information: 10844 Ellis Avenue, Fountain Valley, CA, 92708 - 7018
Contact Name: Vladimir Kogan
Contact Title: Senior Scientist
Phone: (714) 593-7085
Fax: (714) 962-8379
E-Mail: vkogan@ocsd.com

Section D: Application Type The facility is in RECLAIM Title V RECLAIM & Title V Program (please check if applicable)

6. Reason for Submitting Application (Select only ONE):
New Construction (Permit to Construct)
Equipment Operating Without A Permit or Expired Permit
Administrative Change
Equipment On-Site But Not Constructed or Operational
Title V Application (Initial, Revisions, etc.) (Also complete Form 500-TV)
Compliance Plan
Facility Permit Amendment
Registration/Certification
Streamlined Standard Permit
Permitted Equipment Altered/ Modified Without Permit Approval
Proposed Alteration/Modification to Permitted Equipment
Change of Condition For Permit To Operate
Change of Condition For Permit To Construct
Change of Location - Moving to New Site
Existing Or Previous Permit/Application Number: D11237 / 134617

7. Estimated Start Date of Operation/Construction (MM/DD/YYYY):
8. Description of Equipment: Internal Combustion Engine, Caterpillar, Compression-ignition, four-stroke, turbocharged, aftercooled, V-12, Model 3512, 1482 BHP, Diesel oil-fired, driving an emergency electrical generator.
9. Is this equipment portable AND will it be operated at different locations within AQMD's jurisdiction? No
10. For identical equipment, how many additional applications are being submitted with this application? 3
11. Are you a Small Business as per AQMD's Rule 102 definition? No
12. Has a Notice of Violation (NOV) or a Notice To Comply (NC) been issued for this equipment? No

Section E: Facility Business Information

13. What type of business is being conducted at this equipment location? Sewage Treatment
14. What is your business primary NAICS Code (North American Industrial Classification System)? 221320
15. Are there other facilities in the SCAQMD jurisdiction operated by the same operator? No
16. Are there any schools (K-12) within a 1000-ft radius of the equipment physical location? No

Section F: Authorization/Signature

17. Signature of Responsible Official: Michael D. Moore
18. Title: Manager, ECRA
19. Print Name: Michael D. Moore
20. Date: 10/18/07
Check List: Form(s) signed and dated by authorized official, Supplemental Equipment Form (400-E-XX or 400-E-GEN), CEQA Form (400-CEQA) attached, Payment for permit processing fee attached

Summary table with columns: AQMD USE ONLY, APPLICATION/TRACKING #, TYPE, EQUIPMENT CATEGORY CODE, FEE SCHEDULE, VALIDATION, ASSIGNMENT, CHECK/MONEY ORDER, AMOUNT, Tracking #

(65068) -

3. ENGINEER NO.

'07 OCT 19 P1:16



South Coast Air Quality Management District

FORM 400-E-13a

EMERGENCY INTERNAL COMBUSTION ENGINE

Mail Application To: SCAQMD, P.O. Box 4944, Diamond Bar, CA 91765

Tel: (909) 396-3385

www.aqmd.gov

This form must be accompanied by a completed Application for a Permit to Construct/Operate -Form 400A, Form CEQA, Plot Plan and Stack Form

Permit to be issued to (Business name of operator to appear on permit):

Orange County Sanitation District

Street location where the equipment will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial location site):

22212 Brookhurst Street, Huntington Beach, CA 9264

Section A: EQUIPMENT LOCATION

Form section A containing fields for Manufacturer (Caterpillar), Model No. (3512), Serial No. (24Z01541), Date of Manufacture (01/01/1982), Date of Installation (01/01/1983), ICE Emergency Function (Electrical Generator), Type (Stationary), Fuel (Diesel Oil No. 2), Cycle Type (Four Cycle), Combustion Type (Rich Burn), No. of Cylinders (Twelve), Aspiration Type (Turbocharged/Aftercooled), and Air Pollution Control (No Control).

Section B: OPERATION INFORMATION:

Form section B containing fields for Fuel Consumption (Maximum Rated load, Average Load) and Operating Schedule (Normal, Maximum, Testing & Maintenance).

CONFIDENTIAL INFORMATION

Under the California Public Records Act, all information in your permit application will be considered a matter of public record and may be disclosed to a third party. If you wish to keep certain items as confidential, please complete the following steps:

- (a) Make a copy of any page containing confidential information blanked out. Label this page "public copy."
(b) Label the original page "confidential." Circle all confidential items on the page.
(c) Prepare a written justification for the confidentiality of each confidential item. Append this to the confidential copy.

<b>Engine Data</b>	(1) Select year of manufacture and rated horsepower.						
	(2) Provide actual emission figures from manufacturing specifications (if available) for the Rated Power selected. If engine fuel is LPG or Natural Gas, select Spark Ignition.						
	(3) The compression (ignited diesel fuel) internal combustion engine (ICE's) must meet the State of California or EPA's Non-Road Emission Standards as listed below (please provide manufacturer's specification and guarantee).						

Rated Power	Year	Figures	Carbon Monoxide (grams/bhp-hr)	Hydrocarbons (grams/bhp-hr)	Oxides of Nitrogen (grams/bhp-hr)	Particulate Matter (grams/bhp-hr)
<b>Compressor Ignition</b>						
50 - 750 H.P.						
○	50 - 100 H.P.	BACT	8.5	1.0	6.9	0.38
		Actual				
○	100 - 175 H.P.	BACT	8.5	1.0	6.9	0.38
		Actual				
○	175 - 750 H.P.	BACT	2.6	1.0	3.8	0.15
		Actual				
751 and greater H.P.						
○	2000 and	BACT	8.5	1.0	6.9	0.38
		Actual				

	Figures	VOC	NOx	CO
<b>Spark Ignition</b>	For natural gas fired or LPG. The ICE must meet the requirements for BACT as listed below.			
○	BACT	1.5 grams/bhp-hr	1.5 grams/bhp-hr	2.0 grams/bhp-hr
	Actual			

<b>Section C: APPLICANT CERTIFICATION STATEMENT</b>		
I hereby certify that all information contained herein and information submitted with this application is true and correct.		
SIGNATURE OF PREPARER: 	TITLE OF PREPARER: Associate Engineer III	
CONTACT PERSON FOR INFORMATION ON THIS EQUIPMENT: Vladimir Kogan	CONTACT PERSON'S TELEPHONE NUMBER: (714) 593-7085	DATE SIGNED: 7/6/07



Engr. Inl.	
A/N	
Appln Date:	
Class	

**Data Input**

Applicant	Orange County Sanitation District		ID	
Mailing Address	10844 Ellis Avenue, Fountain Valley, CA 92708			
Equipment Location	22212 Brookhurst Street, Huntington Beach, CA 9264		Equipment Type	Fixed site
Equipment Description	Manufacturer:	Caterpillar		
	Model No:	3512		
	Serial No.:	24Z01541		
	Manufacturer Date:	01/01/1982		
	Installation Date:	01/01/1983		
	Cylinders:	Twelve		
	HP Rating:	1482.00		

Aspiration Type	Turbocharged	Turbocharged/Aftercooled	Naturally Aspirated
	0	X	0
Turbocharged/Aftercooled			

Driving (ICE Emergency Function)	Generator	Compressor	Pump
	X	0	0
	Electrical Generator		

Emission Factors, g/HP-hr	VOC	NOx	CO	PM
(Note: Emission factors taken from engine manufacturer specs included with application)				

Retard Timing	Yes	No

Operating Schedule	Hrs/Day Max.		Hrs/Month Max	
	Hrs/Day Ave.		Wks/Yr	
	Days/Wk.			
	Days/Mo			



A/N:	
------	--

**Given**

HP	1482.00					
G to lb conversion factor	0.0022046					
Operating Schedule	Hrs/Day Max.					
	Hrs/Day Avg.					
	Days/Wk.					
	Days/Mo.					
	Hrs/Month Max.					
	Wks/Yr.					
Emission Factors	VOC	NOx	SOx	CO	PM	PM10
			0.160			
Retard Timing	Yes	No				
Emission Correction Factor	VOC	NOx	SOx	CO	PM	PM10
	1.000		1.000		1.000	1.000

**Computations**

	Emission factor, g/HP-hr	VOC	NOx	SOx	CO	PM	PM10
						0.160	
	lb/hr.			0.523			
	lb/day Max.						
	lb/day Avg.						
	lb/yr.						



South Coast Air Quality Management District

**Form 400-CEQA**

**California Environmental Quality Act (CEQA) Applicability**

Mail Application To:  
P.O. Box 4944  
Diamond Bar, CA 91765

Tel: (909) 396-3385

[www.sqmd.gov](http://www.sqmd.gov)

The SCAQMD is required by state law, the California Environmental Quality Act (CEQA), to review discretionary permit project applications for potential air quality and other environmental impacts. This form is a screening tool to assist the SCAQMD in clarifying whether or not the project<sup>1</sup> has the potential to generate significant adverse environmental impacts that might require preparation of a CEQA document [CEQA Guidelines §15060(a)].<sup>2</sup> Refer to the attached instructions for guidance in completing this form.<sup>3</sup> For each Form 400-A application, also complete and submit one Form 400-CEQA. If submitting multiple Form 400-A applications for the same project at the same time, only one 400-CEQA form is necessary for the entire project. If you need assistance completing this form, contact Lori Inga at (909) 396-3109.

FACILITY INFORMATION	
Business Name of Operator to Appear on the Permit: Orange County Sanitation District	Facility ID (6-Digit): 029110
Project Description:  Change of condition to an existing stationary emergency diesel engine permit. The permitted allowance for maintenance and testing purposes should be revised from 20 to 30 hours per year based on attached source-testing results (Rule 1470)	

REVIEW FOR EXEMPTION FROM FURTHER CEQA ACTION			
Check "Yes" or "No" as applicable			
	Yes	No	Is this application for:
A.	<input type="radio"/>	<input checked="" type="radio"/>	A CEQA and/or NEPA document previously or currently prepared that specifically evaluates this project? If yes, a permit cannot be issued until a Final CEQA document and Notice of Determination is submitted.
B.	<input type="radio"/>	<input checked="" type="radio"/>	A request for a change of permittee only (without equipment modifications)?
C.	<input type="radio"/>	<input checked="" type="radio"/>	Equipment certification or equipment registration (qualifies for Rule 222)?
D.	<input type="radio"/>	<input checked="" type="radio"/>	A functionally identical permit unit replacement with no increase in rating or emissions?
E.	<input type="radio"/>	<input checked="" type="radio"/>	A change of daily VOC permit limit to a monthly VOC permit limit?
F.	<input type="radio"/>	<input checked="" type="radio"/>	Equipment damaged as a result of a disaster during state of emergency?
G.	<input type="radio"/>	<input checked="" type="radio"/>	A Title V (i.e., Regulation XXX) permit renewal (without equipment modifications)?
H.	<input type="radio"/>	<input checked="" type="radio"/>	A Title V administrative permit revision?
I.	<input type="radio"/>	<input checked="" type="radio"/>	The conversion of an existing permit into an initial Title V permit?
If "Yes" is checked for any question above, your application does not require additional evaluation for CEQA applicability. Skip to page 2, "SIGNATURES" and sign and date this form.			

REVIEW OF IMPACTS WHICH MAY TRIGGER CEQA			
Complete Sections I-VI by checking "Yes" or "No" as applicable. To avoid delays in processing your application(s), explain all "Yes" responses on a separate sheet and attach it to this form.			
	Yes	No	Section I - General
1.	<input type="radio"/>	<input checked="" type="radio"/>	Has this project generated any known public controversy regarding potential adverse impacts that may be generated by the project? <small>Controversy may be construed as concerns raised by local groups at public meetings; adverse media attention such as negative articles in newspapers or other periodical publications, local news programs, environmental justice issues, etc.</small>
2.	<input type="radio"/>	<input checked="" type="radio"/>	Is this project part of a larger project?
Section II - Air Quality			
3.	<input type="radio"/>	<input checked="" type="radio"/>	Will there be any demolition, excavating, and/or grading construction activities that encompass an area exceeding 20,000 square feet?
4.	<input type="radio"/>	<input checked="" type="radio"/>	Does this project include the open outdoor storage of dry bulk solid materials that could generate dust? If Yes, include a plot plan with the application package.

<sup>1</sup> A "project" means the whole of an action which has a potential for resulting in physical change to the environment, including construction activities, clearing or grading of land, improvements to existing structures, and activities or equipment involving the issuance of a permit. For example, a project might include installation of a new, or modification of an existing internal combustion engine, dry-cleaning facility, boiler, gas turbine, spray coating booth, solvent cleaning tank, etc.

<sup>2</sup> To download the CEQA guidelines, visit [http://ceres.ca.gov/env\\_law/state.html](http://ceres.ca.gov/env_law/state.html).

<sup>3</sup> To download this form and the instructions, visit <http://www.sqmd.gov/ceqa> or <http://www.sqmd.gov/permit>

	Yes	No	
5.	<input type="radio"/>	<input checked="" type="radio"/>	Would this project result in noticeable off-site odors from activities that may not be subject to SCAQMD permit requirements? For example, compost materials or other types of greenwaste (i.e., lawn clippings, tree trimmings, etc.) have the potential to generate odor complaints subject to Rule 402 – Nuisance.
6.	<input type="radio"/>	<input checked="" type="radio"/>	Does this project cause an increase of emissions from marine vessels, trains and/or airplanes?
7.	<input type="radio"/>	<input checked="" type="radio"/>	Will the proposed project increase the QUANTITY of hazardous materials stored aboveground onsite or transported by mobile vehicle to or from the site by greater than or equal to the amounts associated with each compound on the attached Table 1? <sup>4</sup>
<b>Section III – Water Resources</b>			
8.	<input type="radio"/>	<input checked="" type="radio"/>	Will the project increase demand for water at the facility by more than 5,000,000 gallons per day? The following examples identify some, but not all, types of projects that may result in a "yes" answer to this question: 1) projects that generate steam; 2) projects that use water as part of the air pollution control equipment; 3) projects that require water as part of the production process; 4) projects that require new or expansion of existing sewage treatment facilities; 5) projects where water demand exceeds the capacity of the local water purveyor to supply sufficient water for the project; and 6) projects that require new or expansion of existing water supply facilities.
9.	<input type="radio"/>	<input checked="" type="radio"/>	Will the project require construction of new water conveyance infrastructure? Examples of such projects are when water demands exceed the capacity of the local water purveyor to supply sufficient water for the project, or require new or modified sewage treatment facilities such that the project requires new water lines, sewage lines, sewage hook-ups, etc.
<b>Section IV – Transportation/Circulation</b>			
10.	Will the project result in (Check all that apply):		
	<input type="radio"/>	<input checked="" type="radio"/>	a. the need for more than 350 new employees?
	<input type="radio"/>	<input checked="" type="radio"/>	b. an increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round-trips per day?
	<input type="radio"/>	<input checked="" type="radio"/>	c. increase customer traffic by more than 700 visits per day?
<b>Section V – Noise</b>			
11.	<input type="radio"/>	<input checked="" type="radio"/>	Will the project include equipment that will generate noise GREATER THAN 90 decibels (dB) at the property line?
<b>Section VI – Public Services</b>			
12.	Will the project create a permanent need for new or additional public services in any of the following areas (Check all that apply):		
	<input type="radio"/>	<input checked="" type="radio"/>	a. Solid waste disposal? Check "No" if the projected potential amount of wastes generated by the project is less than five tons per day.
	<input type="radio"/>	<input checked="" type="radio"/>	b. Hazardous waste disposal? Check "No" if the projected potential amount of hazardous wastes generated by the project is less than 42 cubic yards per day (or equivalent in pounds).
**REMINDER: For each "Yes" checked in the sections above, attach all pertinent information including but not limited to estimated quantities, volumes, weights, etc.**			
<b>SIGNATURES</b>			
I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE. I UNDERSTAND THAT THIS FORM IS A SCREENING TOOL AND THAT THE SCAQMD RESERVES THE RIGHT TO CONSIDER OTHER PERTINENT INFORMATION IN DETERMINING CEQA APPLICABILITY.			
SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM: <i>Michael Moore</i>		TITLE OF RESPONSIBLE OFFICIAL OF FIRM: Manager, ECRA	
TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM: Michael D. Moore	RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER: (714) 5937-450	DATE Signed: 10/6/07	
SIGNATURE OF PREPARER, IF PREPARED BY PERSON OTHER THAN RESPONSIBLE OFFICIAL OF FIRM: <i>Tadeo G. Vitko</i>		TITLE OF PREPARER: Associate Engineer III	
TYPE OR PRINT NAME OF PREPARER: Tadeo G. Vitko	PREPARER'S TELEPHONE NUMBER: (714) 5937-442	DATE Signed: 9/6/07	

THIS CONCLUDES FORM 400-CEQA. INCLUDE THIS FORM AND THE ATTACHMENTS WITH FORM 400-A.

<sup>4</sup> Table 1 – Regulated Substances List and Threshold Quantities for Accidental Release Prevention can be found in the Instructions for Form 400-CEQA.

**SCA QID PERMIT PROCESSING SYSTEM (PPS)  
FEE DATA - SUMMARY SHEET**

Application No : 474766  
 Previous Application No: 134617

IRS/SS No:  
 Previous Permit No: D11237

Company Name : ORANGE COUNTY SANITATION DISTRICT Facility ID: 29110  
 Equipment Street: 22212 BROOKHURSTST , HUNTINGTON BEACH CA 92646  
 Equipment Desc : I C E (>500 HP) EM ELEC GEN DIESEL  
 Equipment Type : BASIC Fee Charged by: B-CAT  
 B-CAT NO. : 043902 C-CAT NO: 00 Fee Schedule: B  
 Facility Zone : 18 Deemed Compl. Date: 10/31/2007 Public Notice: NO

Evaluation Type : CHANGE OF CONDITIONS, (PO) Small Business:   
 Disposition : Approve PO, Recommended by Engineer Penalty:   
 Lead Appl. No : 474766 Identical Permit Unit:

Air quality Analysis		Filing Fee Paid:	\$0.00
E.I.R		Permit Processing Fee Paid:	\$923.92
Health Risk Assessment		Permit Processing Fee Calculated*:	\$923.92
Significant Project		Permit Processing Fee Adjustment:	\$0.00
Expedited Processing	Hours:		
Source Test Review	Hours:		
Time & Material	Hours:		
		Total Additional Fee:	\$0.00
		Additional Charge:	\$0.00

COMMENTS: A/N 474767 & 474468 ARE IDENTICAL EQUIP. TO THIS A/N.

RECOMMENDED BY: GAURANG RAWAL

DATE: 11/01/2007

REVIEWED BY: CDT

DATE: 2/28/08

\* ADJUSTED FOR SMALL BUSINESS, IDENTICAL EQUIPMENT AND P/O NO P/C PENALTY

**AEIS DATA SHEET**

Company Name : ORANGE COUNTY SANITATION DISTRICT

Facility ID : 29110

Equipment Address : 22212 BROOKHURST ST  
HUNTINGTON BEACH CA 92646

Application Number : 474766

Equipment B-Cat : 043902

Estimated Completion Date : 02/27/08

Equipment C-Cat :

Equipment Type : Basic

Equipment Description : I C E (>500 HP) EM ELEC GEN DIESEL

Emittants	Emissions	
	R1 LB/HR	R2 LB/HR
CO	9.81	9.81
NOX	45.32	45.32
PM10	0.82	0.82
ROG	3.63	3.63
SOX	0.02	0.02

**Applicable Rules**

1470	06/01/2007	Requirements for Stationary Diesel-Fueled Internal Combustion and Other
401	11/09/2001	Visible Emissions
402	05/07/1976	Nuisance
404	02/07/1986	Particulate Matter - Concentration
431.2	09/15/2000	Sulfur Content of Liquid Fuels

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Daily Start Times :	00:00	00:00	00:00	00:00	00:00	00:00	00:00
Daily Stop Times :	01:00	00:00	00:00	00:00	00:00	00:00	00:00

User's Initials : GR01

Date: 02/27/08

Supervisor's Name :

*COJ*

Review Date :

*2/28/08*

## NSR DATA SUMMARY SHEET

Application No: 474766  
Application Type: Change of Conditions  
Application Status: PROCESSING  
Previous Apps,Dev,Permit #: 134617, 0 - ICE-PPS, NONE

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Company Name: ORANGE COUNTY SANITATION DISTRICT  
Company ID: 29110  
Address: 22212 BROOKHURST ST,HUNTINGTON BEACH, CA  
RECLAIM: NO  
RECLAIM Zone: 01  
Air Basin: SC  
e: 18  
File V: NO

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Device ID: 0 - ICE-PPS  
Estimated Completion Date: 12-30-2007  
Heat Input Capacity: 0 Million BTU/hr  
Priority Reserve: NONE - No Priority Access Requested  
Recommended Disposition: 31 - PERMIT TO OPERATE GRANTED  
PR Expiration:  
School Within 1000 Feet: NO  
Operating Weeks Per Year: 50  
Operating Days Per Week: 1  
Monday Operating Hours: 00:00 to 01:00  
Tuesday Operating Hours: 00:00 to 00:00  
Wednesday Operating Hours: 00:00 to 00:00  
Thursday Operating Hours: 00:00 to 00:00  
Friday Operating Hours: 00:00 to 00:00  
Saturday Operating Hours: 00:00 to 00:00  
Sunday Operating Hours: 00:00 to 00:00

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Emittant: CO  
BACT:  
Cost Effectiveness: NO  
Source Type: MAJOR  
Emis Increase: 0  
Modeling: N/A  
Public Notice: N/A  
CONTROLLED EMISSION  
Max Hourly: 9.81 lbs/hr  
Max Daily: 9.81 lbs/day  
UNCONTROLLED EMISSION  
Max Hourly: 9.81 lbs/hr  
Max Daily: 39.24 lbs/day  
CURRENT EMISSION  
BACT 30 days Avg: 1 lbs/day  
Annual Emission: 490.5 lbs/yr  
District Exemption: 1304(a)(4)-10/12/1995-Emergency Equipment *attainment*

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Emittant: NOX  
BACT:  
Cost Effectiveness: NO  
Source Type: MAJOR  
Emis Increase: 0  
Modeling: N/A  
Public Notice: N/A  
CONTROLLED EMISSION  
Max Hourly: 45.32 lbs/hr  
Max Daily: 45.32 lbs/day  
UNCONTROLLED EMISSION  
Max Hourly: 45.32 lbs/hr  
Max Daily: 181.28 lbs/day  
CURRENT EMISSION  
BACT 30 days Avg: 7 lbs/day  
Annual Emission: 2266 lbs/yr  
District Exemption: 1304(a)(4)-10/12/1995-Emergency Equipment

---

Emittant: PM10  
BACT:  
Cost Effectiveness: NO  
Source Type: MINOR  
Emis Increase: 0  
Modeling: N/A  
Public Notice: N/A  
CONTROLLED EMISSION  
Max Hourly: 0.82 lbs/hr  
Max Daily: 3.28 lbs/day  
UNCONTROLLED EMISSION  
Max Hourly: 0.82 lbs/hr  
Max Daily: 3.28 lbs/day  
CURRENT EMISSION  
BACT 30 days Avg: 0 lbs/day  
Annual Emission: 164 lbs/yr  
District Exemption: None

---

Emittant: ROG  
BACT:  
Cost Effectiveness: NO  
Source Type: MINOR  
Emis Increase: 0  
Modeling: N/A  
Public Notice: N/A  
CONTROLLED EMISSION  
Max Hourly: 3.63 lbs/hr  
Max Daily: 3.63 lbs/day  
UNCONTROLLED EMISSION  
Max Hourly: 3.63 lbs/hr  
Max Daily: 14.52 lbs/day  
CURRENT EMISSION  
BACT 30 days Avg: 1 lbs/day  
Annual Emission: 181.5 lbs/yr  
District Exemption: 1304(a)(4)-10/12/1995-Emergency Equipment

Emittant: SOX  
BACT:  
Cost Effectiveness: NO  
Source Type: MINOR  
Emis Increase: 0  
Modeling: N/A  
Public Notice: N/A  
CONTROLLED EMISSION  
Max Hourly: 0.02 lbs/hr  
Max Daily: 0.08 lbs/day  
UNCONTROLLED EMISSION  
Max Hourly: 0.02 lbs/hr  
Max Daily: 0.08 lbs/day  
CURRENT EMISSION  
BACT 30 days Avg: 0 lbs/day  
Annual Emission: 4 lbs/yr  
District Exemption: None

SUPERVISOR'S APPROVAL: Corc SUPERVISOR'S REVIEW DATE: 2/28/08

Processed By: amird 2/27/2008 9:37:00 AM

## PERMIT TO OPERATE

This initial permit must be renewed ANNUALLY unless the equipment is moved, or changes ownership.  
If the billing for the annual renewal fee (Rule 301.f) is not received by the expiration date, contact the District.

Legal Owner  
or Operator: ORANGE COUNTY SANITATION DISTRICT  
P O BOX 8127  
FOUNTAIN VALLEY, CA 92728-8127

ID 29110

Equipment Location: 22212 BROOKHURST ST, HUNTINGTON BEACH, CA 92646-8457

### Equipment Description :

INTERNAL COMBUSTION ENGINE, NO. 2 AT PB-C, CATERPILLAR, COMPRESSION-IGNITION, FOUR STROKE, TURBOCHARGED-AFTERCOOLED, V-12 TYPE, MODEL NO. 3512, SERIAL NUMBER 24Z01547, 1482 HP, DIESEL OIL-FIRED, DRIVING A 1000 KW EMERGENCY ELECTRICAL GENERATOR.

### 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.
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
3. THIS ENGINE SHALL NOT OPERATE MORE THAN 200 HOURS IN ANY ONE YEAR, WHICH INCLUDES NO MORE THAN 30 HOURS IN ANY ONE YEAR FOR MAINTENANCE AND TESTING PURPOSES.
4. AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER SHALL BE INSTALLED AND MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.
5. THE OPERATION OF THE ENGINE BEYOND 30 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. ENGINE OPERATION SHALL BE TERMINATED IMMEDIATELY AFTER THE UTILITY DISTRIBUTION COMPANY ADVISES THAT A ROTATING OUTAGE IS NO LONGER IMMINENT OR IN EFFECT.

SAMPLE

## PERMIT TO OPERATE

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. AN ENGINE OPERATING LOG SHALL BE MAINTAINED WHICH ON A MONTHLY BASIS SHALL LIST ALL ENGINE OPERATIONS IN EACH OF THE FOLLOWING AREAS:
  - A. EMERGENCY USE HOURS OF OPERATION
  - B. MAINTENANCE AND TESTING HOURS
  - C. OTHER OPERATING HOURS (DESCRIBE THE REASON FOR OPERATION)IN ADDITION, EACH TIME THE ENGINE IS STARTED MANUALLY, THE LOG SHALL INCLUDE THE DATE OF OPERATION AND THE TIMER READING IN HOURS AT THE BEGINNING AND END OF OPERATION THE LOG SHALL BE KEPT FOR A MINIMUM OF FIVE CALENDAR YEARS PRIOR TO THE CURRENT YEAR AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST. THE TOTAL HOURS OF OPERATION FOR THE PREVIOUS CALENDAR YEAR SHALL BE RECORDED SOMETIME DURING THE FIRST 15 DAYS OF JANUARY OF EACH YEAR.
8. THE OPERATOR SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF RULES 431.2 AND 1470.

### NOTICE

IN ACCORDANCE WITH RULE 206, THIS PERMIT TO OPERATE OR COPY SHALL BE POSTED ON OR WITHIN 8 METERS OF THE EQUIPMENT.

THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26 OF THE HEALTH AND SAFETY CODE OF THE STATE OF CALIFORNIA OR THE RULES OF THE AIR QUALITY MANAGEMENT DISTRICT. THIS PERMIT CANNOT BE CONSIDERED AS PERMISSION TO VIOLATE EXISTING LAWS, ORDINANCES, REGULATIONS OR STATUTES OF OTHER GOVERNMENT AGENCIES.

EXECUTIVE OFFICER

By Dorris M.Bailey/GR01

SAMPLE

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT	PAGE 1 of 2
<i>ENGINEERING AND COMPLIANCE</i>	A/N 474766
APPLICATION PROCESSING AND CALCULATIONS	PROCESSED BY GCR CHECKED BY  DATE 10/31/2007

Applicant's Name: ORANGE CO. SAN DIST (OCSD)  
Mailing Address: 10844 ELLIS AVE  
 FOUNTAIN VALLEY, CA 92708

Equipment Location: 22212 HUNTINGTON ST, HUNTINGTON BEACH, CA 92646

Equipment Description:

INTERNAL COMBUSTION ENGINE  
 MANUFACTURER: CATERPILLAR  
 MODEL NO.: 3512  
 FUELED WITH: DIESEL  
 DRIVING: EMERGENCY GENERATOR  
 SERIAL NO.: 24Z01547  
 CYLINDERS: 12  
 ASPIRATION: TURBOCHARGED AND AFTERCOOLED  
 HP RATING: 1482

HISTORY/PROCESS DESCRIPTION:

Application date: 10/19/2007  
 Class: 3

The application was filed for change of permit condition for R1470 Compliance. The company conducted source tests to allow more hours for testing and maintenance. With 0.251gm/bhp-hr of PM, the company is allowed 30 hrs. PM test results are on file and were reviewed.

CALCULATIONS:

See ATTACHMENT A.

EVALUATION:

Rule 212:

This is not a significant project, no school within 1000', emis below daily threshold. Public notice is not required.

Rule 401:

Based on experience with similar equipment, this engine is expected to comply with the visible emission limits.

Rule 402:

Based on experience with similar equipment, nuisance complaints are not expected.

Rule 404:

Based on experience with similar equipment, compliance with this rule is expected.

Rule 431.2:

Diesel fuel supplied to this equipment must contain 0.0015% or less sulfur by weight. Compliance is expected.

REGULATION XIII: New Source Review (Amended December 6, 2002)

There is reduction in PM emission. Therefore, the requirements of this rule do not apply.

RULE 1401: Exempt as per section (g)(1)(F)

Rule 1470: Equipment can operate up to 30 hrs/yr for maintenance and testing based on S/T PM result of 0.251 gm/bhp-hr, Rule 1470 (3) (C) (i) (II), amended June 1, 2007. Compliance is expected. *Since >0.15, this in-use engine cannot be part of a DRP-ISC CDE*

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT	PAGE	2	of	2
<i>ENGINEERING AND COMPLIANCE</i>	A/N			474766
APPLICATION PROCESSING AND CALCULATIONS	PROCESSED BY			GCR
	CHECKED BY			
	DATE			10/31/2007

DISCUSSIONS:

Based on the information submitted with the application, the engine will operate:

in violation of BACT.

in compliance with all the applicable Rules and Regulations of the District.

CONDITIONS

- 1 OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED.
  - 2 THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITIONS AT ALL TIMES.
- REFER TO SAMPLE PERMIT FOR OTHER CONDITIONS.**

## Data Inputs

ENGR. INI.	GCR
A/N	474766
Appln Date:	10/19/2007
Class:	3

Applicant: **ORANGE CO. SAN DIST (OCSO)**  
 Mailing address: **10844 ELLIS AVE**  
**FOUNTAIN VALLEY, CA 92708**

Equipment Address: **22212 HUNTINGTON ST. HUNTINGTON BEACH, CA 92646**

MANUFACTURER: **CATERPILLAR**  
 MODEL NO.: **3512**  
 SERIAL NO.: **24Z01547**  
 CYLINDERS: **12**  
 HP RATING: **1482**

Turbocharged	Turbocharged/ Aftercooled	Naturally Aspirated
	X	

TURBOCHARGED AND AFTERCOOLED

Driving:

<b>Generator</b>	<b>Compressor</b>	<b>Pump</b>
X		

GENERATOR

	<b>VOC</b>	<b>NOx</b>	<b>CO</b>	<b>PM*</b>
Emission Factors, g/HP-hr				0.251

AP-42

\* S/test

	<b>Yes</b>	<b>No</b>
Retard Timing	0	X

Operating schedule

hrs/day Max.	1
hrs/day Avg.	1
days/wk	1
hrs/month Max.	4
wks/yr	50

Emergency ICEs

Given:

HP 1,482  
 g to lb conversion factor 0.0022046  
 Operating schedule  
     hrs/day Max. 1  
     hrs/day Avg. 1  
     days/wk 1  
     hrs/month Max. 4  
     wks/yr 50

	VOC	NOx	SOx	CO	PM	PM10
Emission factors			0.0049		0.251	0.24

	Yes	No
Retard Timing	0	X

	VOC	NOx	SOx	CO	PM	PM10
Emission correction factor	1	1	1	1	1	1

Computations:

	VOC	NOx	SOx	CO	PM	PM10
Emission factor, g/HP-hr	0	0.00	0.0049	0.00	0.251	0.24
lb/hr	0.00	0.00	0.02	0.00	0.82	0.79
lb/day Max.	0	0	0	0	1	1
lb/day Avg.	0	0	0	0	0	0
lb/yr	-	-	0.82	-	41.82	40.15

VOC= 3.63 lbs/hr, NOx= 45.32 lbs/hr, and CO = 9.81 lbs/hr, kept same as under previous PO D11237

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
ENGINEERING DIVISION  
APPLICATION PROCESSING AND CALCULATIONS

4	1
APPL. NO. 134617	DATE 8-
PROCESSED BY E. RUDWAR	CHECK A

EMISSION CALCULATIONS

FOR REG. XIII / NSR DATA SHEET :

Power: 1482 HP  
(For each engine-generator set)  
60.5 gal/hr diesel oil fuel usage  
24 hrs/day operation  
0.05% S content of fuel oil  
The same emission factors as in P/c evaluation apply —

HC — 1.12 gm / HP-hr

NO<sub>x</sub> — 14 gm / HP-hr

CO — 3.03 gm / HP-hr

PM — 33.5 lb / 1000 gal

All S converted to SO<sub>2</sub>

MAXIMUM —

$$\text{HC} : \frac{1.12 \text{ gm}}{\text{HP-hr}} \times 1482 \text{ HP} \times \frac{24 \text{ hrs}}{\text{day}} \times \frac{1 \text{ lb}}{454 \text{ gm}} \times 1.1 = 96.52$$

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
 ENGINEERING DIVISION  
 APPLICATION PROCESSING AND CALCULATIONS

4	2
APPL. NO. 134617	DATE 8-
APPROVED BY E. RUIVILAN	CHECKED BY R

$$NO_x : \frac{14 \text{ gm}}{\text{HP-hr}} \times 86.178 = 1206.5 \text{ lb/day}$$

$$CO : \frac{3.03 \text{ gm}}{\text{HP-hr}} \times 86.178 = 261.12 \text{ lb/day}$$

$$PM : \frac{33.5 \text{ lb}}{1000 \text{ gal}} \times \frac{60.5 \text{ gal}}{\text{hr}} \times \frac{24 \text{ hrs} \times 1.1}{\text{day}} = \frac{53.51 \text{ lb}}{\text{day}}$$

5 + 0 → SO<sub>2</sub>  
32 32

$$SO_2 = \frac{60.5 \text{ gal}}{\text{hr}} \times \frac{6.83 \text{ lb}}{\text{gal}} \times 0.0005 \times \frac{64 \text{ lb SO}_2}{32 \text{ lbs}} \times \frac{24 \text{ hrs}}{\text{day}} \times 1.1$$

$$= 10.91 \text{ lb SO}_2 / \text{Day}$$

ACTUAL — 60 gal/hr fuel oil consumption

$$HC : \frac{1.12 \text{ gm}}{\text{HP-hr}} \times \frac{60}{60.5} \times 1482 \text{ HP} \times \frac{24 \text{ hrs}}{\text{day}} \times \frac{1 \text{ lb}}{45 \text{ gm}} = 27.02 \text{ lb/day}$$

77.696

$$NO_x : \frac{14 \text{ gm}}{\text{HP-hr}} \times 77.696 = 1087.74 \text{ lb NO}_x / \text{Day}$$

$$CO : \frac{3.03 \text{ gm}}{\text{HP-hr}} \times 77.696 = 235.42 \text{ lb CO / Day}$$

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
ENGINEERING DIVISION  
APPLICATION PROCESSING AND CALCULATIONS

4	
APPL. NO. 134617	DATE 8-
PROCESSED BY E. R. W. H. A.	CHECK

$$\text{PM} : \frac{33.5 \text{ lb}}{1000 \text{ gal}} \times \frac{60 \text{ gal}}{\text{hr}} \times \frac{24 \text{ hrs}}{\text{day}} = 48.24 \frac{\text{lb}}{\text{day}}$$

$$\text{SO}_2 : \frac{60 \text{ gal}}{\text{hr}} \times \frac{6.83 \text{ lb}}{\text{gal}} \times 0.0005 \times \frac{64 \text{ lb}_s \text{ SO}_2}{32 \text{ lb}_s \text{ S}} \times \frac{24 \text{ hrs}}{\text{day}} \\ = 9.84 \frac{\text{lb}}{\text{day}}$$

For AELIS DATA SHEET :

$$\text{Base} : 14 \text{ B}_2 \text{ HP} \left( \frac{60}{60.5} \right) = 1469.75 \text{ HP}$$

60 gal/hr diesel oil fuel usage

4 hrs/day

0.5% S. All S to SO<sub>2</sub>

Same emission factors as.

$$\text{HC} : \frac{1.12 \text{ gm}}{\text{HP-hr}} \times 1469.75 \text{ HP} \times \frac{1 \text{ lb}}{454 \text{ gm}} = 3.63 \frac{\text{lb}}{\text{hr}}$$

$$\text{NO}_x : \frac{14 \text{ gm}}{\text{HP-hr}} \times 1469.75 \text{ HP} \times \frac{1 \text{ lb}}{454 \text{ gm}} = 45.32 \frac{\text{lb}}{\text{hr}}$$

$$\text{CO} : \frac{3.03 \text{ gm}}{\text{HP-hr}} \times 1469.75 \text{ HP} \times \frac{1 \text{ lb}}{454 \text{ gm}} = 9.81 \frac{\text{lb}}{\text{hr}}$$

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
ENGINEERING DIVISION  
APPLICATION PROCESSING AND CALCULATIONS

4	4
APPL. NO. 134617	DATE 8-
PROCESSED BY EPHRAIM	CHECK K

$$PM : \frac{37.5 \text{ lb}}{1000 \text{ gal}} \times \frac{60 \text{ gal}}{\text{hr}} = 2.01 \text{ lb/hr PM}$$

$$SO_2 : \frac{60 \text{ gal}}{\text{hr}} \times \frac{6.83 \text{ lb}}{\text{gal}} \times 0.0005 \times \frac{64 \text{ lb } SO_2}{32 \text{ lb S}} = 0.41 \frac{\text{lb}}{\text{hr}} SO_2$$

## Gaurang Rawal

---

**From:** Vitko, Ted [TVITKO@OCSD.COM]  
**Sent:** Wednesday, October 31, 2007 4:06 PM  
**To:** Gaurang Rawal  
**Subject:** PM Data from Source Testing of Diesel Engines



Document.pdf (4  
MB)

Hi Gaurang,

Sorry for the confusion. What I sent you initially was the latest source testing data we did to the newest engines. This one is for those engines we're requesting additional maintenance hours based on PM data. Let me know if you need anything else. Thanks

Ted Vitko  
Air Quality Compliance  
Extension 7442



**SCEC**

**ORANGE COUNTY SANITATION DISTRICT  
PLANT NO. 2 EMERGENCY DIESEL GENERATORS  
2004 ENGINEERING SOURCE TEST REPORT**

**PREPARED FOR:**  
Orange County Sanitation District  
Post Office Box 8127  
10844 Ellis Avenue  
Fountain Valley, California 92728-8127

**EQUIPMENT LOCATION:**  
Plant No. 2  
Internal Combustion Engine Emergency Diesel-Fired Generators  
Huntington Beach Wastewater Treatment Facility  
Huntington Beach, California

**TEST DATES:**  
June 15-17, 2004

**ISSUE DATE:**  
July 15, 2004

**PREPARED BY:**  
Mr. Michael W. Bell  
SCEC  
1582-1 North Batavia Street  
Orange, California 92867

Report No: 2061.1014.rpt1

Tested By: *Michael W. Bell*  
Michael W. Bell

Reviewed By: *Leslie A. Johnson*  
Leslie A. Johnson

TABLE I.1  
SUMMARY OF RESULTS

Parameter	Units	CAT 3512	DD 9163-7305	DD T163-7K16
Stack Height: Above Ground Level <sup>(1)</sup>	Ft	24.292	32.958	27.833
Stack Inside Diameter	In	11.75	12.875	15.25
Stack Flow Rate	ACFM	5,030	6,920	9,381
Stack Flow Rate @ 68 deg F, 29.92 in Hg	DSCFM	1,886	3,600	4,332
Stack Temp	Deg F	843	502	597
Stack Moisture Content	% Vol	7.4	4.7	7.0
Test Load	KW	440	386	1150
Horsepower (Rated @ Full Load)	BHP	1482	1515	2935
Horsepower (Estimated Actual Based on KW Output) <sup>(2)</sup> 44%	BHP	652	547	1688
PM Concentration <sup>(3)</sup>	gr/DSCF	0.0224	0.0169	0.0103
PM Mass Emissions <sup>(3)</sup>	Lb/Hr	0.36	0.52	0.33
PM Mass Emissions (Based on Rated BHP) <sup>(3)</sup>	Gm/BHP-Hr	0.111	0.156	0.103
PM Mass Emissions (Based on Estimated Actual BHP) <sup>(3)</sup>	Gm/BHP-Hr	0.252	0.434	0.059
O <sub>2</sub> Concentration	% vd	11.59	16.40	12.30
CO <sub>2</sub> Concentration	% vd	6.88	3.38	6.36
NO <sub>x</sub> Concentration	ppmvd	1727	550	1356
NO <sub>x</sub> Mass Emissions	Lb/Hr	23.33	14.18	42.08
NO <sub>x</sub> Mass Emissions (Based on Rated BHP)	Gm/BHP-Hr	7.142	4.247	6.504
NO <sub>x</sub> Mass Emissions (Based on Estimated Actual BHP)	Gm/BHP-Hr	16.233	11.762	11.308
CO Concentration	ppmvd	242	105	79
CO Mass Emissions	Lb/Hr	1.99	1.65	1.49
CO Mass Emissions (Based on Rated BHP)	Gm/BHP-Hr	0.609	0.493	0.231
CO Mass Emissions (Based on Estimated Actual BHP)	Gm/BHP-Hr	1.384	1.367	0.401
TGNMEO Concentration	ppmv	83.5	96.6	79.5
TGNMEO Mass Emissions	Lb/Hr	0.39	0.87	0.86
TGNMEO Mass Emissions (Based on Rated BHP)	Gm/BHP-Hr	0.120	0.259	0.133
TGNMEO Mass Emissions (Based on Estimated Actual BHP)	Gm/BHP-Hr	0.273	0.718	0.231

<sup>(1)</sup> Height was measured as best as possible; however ground level was sloped for CAT 3512 and DD 9163-7305 buildings.

<sup>(2)</sup> Horsepower is estimated based on calculated efficiency of full load generator to horsepower rating. Manufacturer curves should be utilized to more accurately determine horsepower at the test load.

<sup>(3)</sup> PM data is for the front-half (probe, nozzle and filter components). Additional PM data for the condensable fraction is provided in Appendix A.

# SUMMARY OF PARTICULATE EMISSIONS

Date:		June 15, 2004			
Client:		OCSD			
Site:		Plant 2 CAT 3512 EG Exhaust			
PARTICULATE TYPE	SYMBOL	UNITS	RUN 1	RUN 2	AVERAGE
<b>FILTERABLE PARTICULATE</b>					
NET MILLIGRAMS	mg	mg	52.4	52.3	52.3
CONCENTRATION	Csd	gr/SDCF	0.0227	0.0221	0.0224
CONCENTRATION @ 12% CO <sub>2</sub>	Csd,12	gr/SDCF	0.0396	0.0386	0.0391
EMISSION RATE	E.R.	LB/HR	0.36	0.36	0.36
EMISSION RATE	E.R.	LB/DAY	8.67	8.70	8.68
EMISSION RATE <sup>(1)</sup>	E.R.	gm/BHP-Hr	0.251	0.252	0.252
EMISSION RATE <sup>(2)</sup>	E.R.	gm/BHP-Hr	0.111	0.111	0.111
<b>CONDENSABLE PARTICULATE</b>					
NET MILLIGRAMS	mg	mg	11.5	19.4	15.5
CONCENTRATION	Csd	gr/SDCF	0.0050	0.0082	0.0066
CONCENTRATION @ 12% CO <sub>2</sub>	Csd,12	gr/SDCF	0.0087	0.0144	0.0115
EMISSION RATE	E.R.	LB/HR	0.08	0.13	0.11
EMISSION RATE	E.R.	LB/DAY	1.90	3.23	2.57
EMISSION RATE <sup>(1)</sup>	E.R.	gm/BHP-Hr	0.055	0.094	0.074
EMISSION RATE <sup>(2)</sup>	E.R.	gm/BHP-Hr	0.024	0.041	0.033
<b>ORGANIC PARTICULATE</b>					
NET MILLIGRAMS	mg	mg	NA	NA	NA
CONCENTRATION	Csd	gr/SDCF	NA	NA	NA
CONCENTRATION @ 12% CO <sub>2</sub>	Csd,12	gr/SDCF	NA	NA	NA
EMISSION RATE	E.R.	LB/HR	NA	NA	NA
EMISSION RATE	E.R.	LB/DAY	NA	NA	NA
<b>TOTAL PARTICULATE</b>					
NET MILLIGRAMS	mg	mg	63.9	71.7	67.8
CONCENTRATION	Csd	gr/SDCF	0.0276	0.0303	0.0290
CONCENTRATION @ 12% CO <sub>2</sub>	Csd,12	gr/SDCF	0.0483	0.0530	0.0506
EMISSION RATE	E.R.	LB/HR	0.44	0.50	0.47
EMISSION RATE	E.R.	LB/DAY	10.57	11.93	11.25
EMISSION RATE <sup>(1)</sup>	E.R.	gm/BHP-Hr	0.306	0.346	0.326
EMISSION RATE <sup>(2)</sup>	E.R.	gm/BHP-Hr	0.135	0.152	0.144

Note: NA = Not Applicable

<sup>(1)</sup> Calculated based on estimated horsepower during test.

<sup>(2)</sup> Calculated based on full load rated horsepower listed in permit.

*Handwritten:*  
 0.47 Total  
 - 0.11 Cond  
 -----  
 0.36 Total

## SUMMARY OF PARTICULATE SOURCE TEST DATA AND CALCULATIONS

Date:	06/15/04							
Client:	OCSB							
Site:	Plant 2 CAT 3512 EG Exhaust							
MEASURED SOURCE PARAMETERS			SYMBOL	UNITS		RUN 1	RUN 2	AVERAGE
STACK DIAMETER	Ds	IN				11.75	11.75	11.75
STACK AREA	Ds	FT <sup>2</sup>				0.75	0.75	0.75
BAROMETRIC PRESSURE	Pbar	IN. Hg				29.94	29.94	29.94
STATIC PRESSURE	Pstat	IN. H <sub>2</sub> O				-0.650	-0.640	-0.645
STACK PRESSURE	Ps	IN. Hg				29.89	29.89	29.89
AVERAGE STACK TEMPERATURE	Ts	DEG. F				844.1	841.0	842.6
AVERAGE SQ. ROOT VELOCITY PRESSURE	dP	IN. H <sub>2</sub> O				1.276	1.309	1.292
SAMPLING PARAMETERS								
STANDARD TEMPERATURE	Tstd	DEG. F				68.0	68.0	68.0
STANDARD PRESSURE	Pstd	IN. Hg				29.92	29.92	29.9
PERCENT CARBON DIOXIDE	CO <sub>2</sub>	%				6.9	6.9	6.9
PERCENT OXYGEN	O <sub>2</sub>	%				11.6	11.6	11.6
PITOT CORRECTION FACTOR	Cp					0.818	0.818	0.818
NOZZLE DIAMETER	Dn	IN				0.212	0.212	0.212
NOZZLE DIAMETER	Dn	FT <sup>2</sup>				0.00025	0.00025	0.00025
SAMPLING TIME	t	MIN.				60.0	60.0	60.0
GAS VOLUME SAMPLED	Vm	DCF				36.750	37.914	37.332
WATER VAPOR COLLECTED	Vlc	GRAMS				61.6	60.9	61.3
DRY GAS METER CORRECTION FACTOR	Y					1.0002	1.0002	1.0002
DRY GAS METER TEMPERATURE	Tm	DEG. F				86.0	90.4	88.2
ORIFICE PRESSURE	dH	IN. H <sub>2</sub> O				1.07	1.13	1.10
CALCULATED RESULTS								
CORRECTED GAS VOLUME SAMPLED	Vmstd	DSCF				35.663	36.503	36.083
VOLUME OF WATER CONDENSED	Vwstd	SCF				2.91	2.875	2.89
MOISTURE CONTENT OF FLUE GAS	Bws	%				7.54	7.30	7.42
DRY MOLECULAR WEIGHT OF FLUE GAS	MW dry	lb/lb-mole				29.56	29.56	29.56
WET MOLECULAR WEIGHT OF FLUE GAS	MW wet	lb/lb-mole				28.69	28.72	28.71
FLUE GAS VELOCITY	Vs	ft/sec				110.01	112.65	111.33
FLUE GAS FLOW RATE (ACTUAL CONDITIONS)	ACFM	ACFM				4,970	5,089	5,030
FLUE GAS FLOW RATE (STD. CONDITIONS)	SDCFM	SDCFM				1,859	1,913	1,886
PERCENT EXCESS AIR	% EA	%				116.8	116.5	116.6
PERCENT ISOKINETIC SAMPLING RATE	% ISO	%				98.2	97.7	98.0

## SUMMARY OF PARTICULATE EMISSIONS

Date:		June 16, 2004				
Client:		OCSD				
Site:		Plant 2 Detroit Diesel 9163-7305 (EG)				
PARTICULATE TYPE		SYMBOL	UNITS	RUN 1	RUN 2	AVERAGE
<b>FILTERABLE PARTICULATE</b>						
NET MILLIGRAMS		mg	mg	51.2	51.7	51.4
CONCENTRATION		Csd	gr/SDCF	0.0168	0.0171	0.0169
CONCENTRATION @ 12% CO <sub>2</sub>		Csd,12	gr/SDCF	0.0598	0.0607	0.0602
EMISSION RATE		E.R.	LB/HR	0.52	0.52	0.52
EMISSION RATE		E.R.	LB/DAY	12.53	12.54	12.54
EMISSION RATE <sup>(1)</sup>		E.R.	gm/BHP-Hr	0.433	0.434	0.433
EMISSION RATE <sup>(2)</sup>		E.R.	gm/BHP-Hr	0.156	0.156	0.156
<b>CONDENSABLE PARTICULATE</b>						
NET MILLIGRAMS		mg	mg	18.0	11.3	14.7
CONCENTRATION		Csd	gr/SDCF	0.0059	0.0037	0.0048
CONCENTRATION @ 12% CO <sub>2</sub>		Csd,12	gr/SDCF	0.0211	0.0133	0.0172
EMISSION RATE		E.R.	LB/HR	0.18	0.11	0.15
EMISSION RATE		E.R.	LB/DAY	4.41	2.74	3.58
EMISSION RATE <sup>(1)</sup>		E.R.	gm/BHP-Hr	0.153	0.095	0.124
EMISSION RATE <sup>(2)</sup>		E.R.	gm/BHP-Hr	0.055	0.034	0.045
<b>ORGANIC PARTICULATE</b>						
NET MILLIGRAMS		mg	mg	NA	NA	NA
CONCENTRATION		Csd	gr/SDCF	NA	NA	NA
CONCENTRATION @ 12% CO <sub>2</sub>		Csd,12	gr/SDCF	NA	NA	NA
EMISSION RATE		E.R.	LB/HR	NA	NA	NA
EMISSION RATE		E.R.	LB/DAY	NA	NA	NA
<b>TOTAL PARTICULATE</b>						
NET MILLIGRAMS		mg	mg	69.2	63.0	66.1
CONCENTRATION		Csd	gr/SDCF	0.0227	0.0208	0.0218
CONCENTRATION @ 12% CO <sub>2</sub>		Csd,12	gr/SDCF	0.0808	0.0740	0.0774
EMISSION RATE		E.R.	LB/HR	0.71	0.64	0.67
EMISSION RATE		E.R.	LB/DAY	16.94	15.28	16.11
EMISSION RATE <sup>(1)</sup>		E.R.	gm/BHP-Hr	0.586	0.529	0.557
EMISSION RATE <sup>(2)</sup>		E.R.	gm/BHP-Hr	0.211	0.191	0.201

Note: NA = Not Applicable

<sup>(1)</sup> Calculated based on estimated horsepower during test.

<sup>(2)</sup> Calculated based on full load rated horsepower listed in permit.

## SUMMARY OF PARTICULATE SOURCE TEST DATA AND CALCULATIONS

Date:	06/16/04							
Client:	OCSD							
Site:	Plant 2 Detroit Diesel 9163-7305 (EG)							
MEASURED SOURCE PARAMETERS			SYMBOL	UNITS		RUN 1	RUN 2	AVERAGE
STACK DIAMETER	Ds	IN				12.88	12.88	12.88
STACK AREA	Ds	FT <sup>2</sup>				0.90	0.90	0.90
BAROMETRIC PRESSURE	Pbar	IN. Hg				29.85	29.85	29.85
STATIC PRESSURE	Pstat	IN. H2O				-1.250	-1.350	-1.300
STACK PRESSURE	Ps	IN. Hg				29.76	29.75	29.75
AVERAGE STACK TEMPERATURE	Ts	DEG. F				501.4	502.3	501.9
AVERAGE SQ. ROOT VELOCITY PRESSURE	dP	IN. H2O				1.732	1.704	1.718
SAMPLING PARAMETERS								
STANDARD TEMPERATURE	Tstd	DEG. F				68.0	68.0	68.0
STANDARD PRESSURE	Pstd	IN. Hg				29.92	29.92	29.9
PERCENT CARBON DIOXIDE	CO2	%				3.4	3.4	3.4
PERCENT OXYGEN	O2	%				16.4	16.4	16.4
PITOT CORRECTION FACTOR	Cp					0.818	0.818	0.818
NOZZLE DIAMETER	Dn	IN				0.190	0.190	0.190
NOZZLE DIAMETER	Dn	FT <sup>2</sup>				0.00020	0.00020	0.00020
SAMPLING TIME	t	MIN.				60.0	60.0	60.0
GAS VOLUME SAMPLED	Vm	DCF				47.377	47.299	47.338
WATER VAPOR COLLECTED	Vlc	GRAMS				49.2	49.0	49.1
DRY GAS METER CORRECTION FACTOR	Y					1.0002	1.0002	1.0002
DRY GAS METER TEMPERATURE	Tm	DEG. F				72.5	76.0	74.3
ORIFICE PRESSURE	dH	IN. H2O				1.86	1.80	1.83
CALCULATED RESULTS								
CORRECTED GAS VOLUME SAMPLED	Vmstd	DSCF				47.091	46.700	46.896
VOLUME OF WATER CONDENSED	Vwstd	SCF				2.32	2.313	2.32
MOISTURE CONTENT OF FLUE GAS	Bws	%				4.70	4.72	4.71
DRY MOLECULAR WEIGHT OF FLUE GAS	MW dry	lb/lb-mole				29.19	29.20	29.20
WET MOLECULAR WEIGHT OF FLUE GAS	MW wet	lb/lb-mole				28.67	28.67	28.67
FLUE GAS VELOCITY	Vs	ft/sec				128.55	126.58	127.57
FLUE GAS FLOW RATE (ACTUAL CONDITIONS)	ACFM	ACFM				6,974	6,866	6,920
FLUE GAS FLOW RATE (STD. CONDITIONS)	SDCFM	SDCFM				3,630	3,569	3,600
PERCENT EXCESS AIR	% EA	%				342.5	341.7	342.1
PERCENT ISOKINETIC SAMPLING RATE	% ISO	%				99.3	100.1	99.7

Note: NA = Not Applicable for the test program.

## SUMMARY OF PARTICULATE EMISSIONS

Date:		June 17, 2004			
Client:		OCSD			
Site:		Plant 2 DD T163-7K16 EG Exhaust			
PARTICULATE TYPE	SYMBOL	UNITS	RUN 1	RUN 2	AVERAGE
<b>FILTERABLE PARTICULATE</b>					
NET MILLIGRAMS	mg	mg	28.6	24.9	26.8
CONCENTRATION	Csd	gr/SDCF	0.0110	0.0096	0.0103
CONCENTRATION @ 12% CO2	Csd,12	gr/SDCF	0.0208	0.0181	0.0194
EMISSION RATE	E.R.	LB/HR	0.41	0.35	0.38
EMISSION RATE	E.R.	LB/DAY	9.88	8.49	9.19
EMISSION RATE <sup>(1)</sup>	E.R.	gm/BHP-Hr	0.111	0.095	0.103
EMISSION RATE <sup>(2)</sup>	E.R.	gm/BHP-Hr	0.064	0.055	0.059
<b>CONDENSABLE PARTICULATE</b>					
NET MILLIGRAMS	mg	mg	19.7	25.8	22.8
CONCENTRATION	Csd	gr/SDCF	0.0076	0.0099	0.0088
CONCENTRATION @ 12% CO2	Csd,12	gr/SDCF	0.0143	0.0188	0.0165
EMISSION RATE	E.R.	LB/HR	0.28	0.37	0.33
EMISSION RATE	E.R.	LB/DAY	6.81	8.82	7.81
EMISSION RATE <sup>(1)</sup>	E.R.	gm/BHP-Hr	0.076	0.099	0.087
EMISSION RATE <sup>(2)</sup>	E.R.	gm/BHP-Hr	0.044	0.057	0.050
<b>ORGANIC PARTICULATE</b>					
NET MILLIGRAMS	mg	mg	NA	NA	NA
CONCENTRATION	Csd	gr/SDCF	NA	NA	NA
CONCENTRATION @ 12% CO2	Csd,12	gr/SDCF	NA	NA	NA
EMISSION RATE	E.R.	LB/HR	NA	NA	NA
EMISSION RATE	E.R.	LB/DAY	NA	NA	NA
<b>TOTAL PARTICULATE</b>					
NET MILLIGRAMS	mg	mg	48.3	50.7	49.5
CONCENTRATION	Csd	gr/SDCF	0.0136	0.0195	0.0191
CONCENTRATION @ 12% CO2	Csd,12	gr/SDCF	0.0352	0.0368	0.0360
EMISSION RATE	E.R.	LB/HR	0.70	0.72	0.71
EMISSION RATE	E.R.	LB/DAY	16.68	17.31	17.00
EMISSION RATE <sup>(1)</sup>	E.R.	gm/BHP-Hr	0.187	0.194	0.190
EMISSION RATE <sup>(2)</sup>	E.R.	gm/BHP-Hr	0.107	0.111	0.109

Note: NA = Not Applicable

<sup>(1)</sup> Calculated based on estimated horsepower during test.

<sup>(2)</sup> Calculated based on full load rated horsepower listed in permit.

## SUMMARY OF PARTICULATE SOURCE TEST DATA AND CALCULATIONS

Date:	06/17/04							
Client:	OCS D							
Site:	Plant 2 DD T163-7K16 EG Exhaust							
MEASURED SOURCE PARAMETERS			SYMBOL	UNITS		RUN 1	RUN 2	AVERAGE
STACK DIAMETER	Ds	IN				15.25	15.25	15.25
STACK AREA	Ds	FT <sup>2</sup>				1.27	1.27	1.27
BAROMETRIC PRESSURE	Pbar	IN. Hg				29.82	29.82	29.82
STATIC PRESSURE	Pstat	IN. H2O				-0.820	-1.050	-0.935
STACK PRESSURE	Ps	IN. Hg				29.76	29.74	29.75
AVERAGE STACK TEMPERATURE	Ts	DEG. F				597.0	596.8	596.9
AVERAGE SQ. ROOT VELOCITY PRESSURE	dP	IN. H2O				1.589	1.580	1.584
SAMPLING PARAMETERS								
STANDARD TEMPERATURE	Tstd	DEG. F				68.0	68.0	68.0
STANDARD PRESSURE	Pstd	IN. Hg				29.92	29.92	29.9
PERCENT CARBON DIOXIDE	CO2	%				6.4	6.4	6.4
PERCENT OXYGEN	O2	%				12.3	12.3	12.3
PITOT CORRECTION FACTOR	Cp					0.818	0.818	0.818
NOZZLE DIAMETER	Dn	IN				0.190	0.190	0.190
NOZZLE DIAMETER	Dn	FT <sup>2</sup>				0.00020	0.00020	0.00020
SAMPLING TIME	t	MIN.				60.0	60.0	60.0
GAS VOLUME SAMPLED	Vm	DCF				40.949	41.168	41.059
WATER VAPOR COLLECTED	Vlc	GRAMS				63.4	65.2	64.3
DRY GAS METER CORRECTION FACTOR	Y					1.0002	1.0002	1.0002
DRY GAS METER TEMPERATURE	Tm	DEG. F				81.0	81.4	81.2
ORIFICE PRESSURE	dH	IN. H2O				1.35	1.34	1.34
CALCULATED RESULTS								
CORRECTED GAS VOLUME SAMPLED	Vmstd	DSCF				39.972	40.155	40.063
VOLUME OF WATER CONDENSED	Vwstd	SCF				2.99	3.078	3.04
MOISTURE CONTENT OF FLUE GAS	Bws	%				6.97	7.12	7.04
DRY MOLECULAR WEIGHT OF FLUE GAS	MW dry	lb/lb-mole				29.51	29.51	29.51
WET MOLECULAR WEIGHT OF FLUE GAS	MW wet	lb/lb-mole				28.71	28.69	28.70
FLUE GAS VELOCITY	Vs	ft/sec				123.60	122.92	123.26
FLUE GAS FLOW RATE (ACTUAL CONDITIONS)	ACFM	ACFM				9,407	9,355	9,381
FLUE GAS FLOW RATE (STD. CONDITIONS)	SDCFM	SDCFM				4,348	4,316	4,332
PERCENT EXCESS AIR	% EA	%				134.5	133.7	134.1
PERCENT ISOKINETIC SAMPLING RATE	% ISO	%				98.7	99.9	99.3

Note: NA = Not Applicable for the test program.

**PARTICULATE LABORATORY DATA**

		Date:	June 15, 2004						
		Client:	OCSD						
		Site:	Plant 2 CAT 3512 EG Exhaust						
Run No.	Type	Total Sample Vol. (ml)	Aliquot Vol. (ml)	Vlc less Silica gel Vol. (ml)	Gross Wt. (g)	Tare Wt. (g)	Uncorrected Final Wt. (mg)	Corrected Final Wt. (mg)	
Blank	Acetone	150	----	----	103.0094	103.0094	0.00	----	
Blank	H2O	200	----	----	99.9375	99.9370	0.50	----	
Blank	MeCl2	NA	----	----	NA	NA	NA	----	
1	Filter	-----	----	----	0.5356	0.5004	35.20	35.20	
	Front Half Rinses	275	275	----	105.1231	105.1059	17.20	17.20	
	Condensables	455	455	53.5	103.0066	102.9941	12.50	11.50	
	Organics	NA	NA	NA	NA	NA	NA	NA	
	Total	-----	----	----	-----	-----	64.90	63.90	
2	Filter	-----	----	----	0.5573	0.5200	37.30	37.30	
	Front Half Rinses	225	225	-----	101.5011	101.4861	15.00	15.00	
	Condensables	435	435	52.9	86.4582	86.4378	20.40	19.44	
	Organics	NA	NA	NA	NA	NA	NA	NA	
	Total	-----	----	----	-----	-----	72.70	71.74	

Note: NA = Not Applicable for the test program.

## GRAVIMETRIC ANALYSIS

CLIENT: OCSD  
 REPORT #: 2061.1014  
 TEST DATE: 06/15/04

ANALYST: GS  
 METHOD: CARB Method 5

LOCATION/UNIT: P2 E1 (CAT)  
 RUN #: PM-1

### PROBE AND NOZZLE WASH

Sample Volume: 275 ml      Aliquot: 275 ml  
 Evaporation Dish: E50

	1	2	3	Average
Date:	06/21/04	06/23/04		
Time:	12:00	14:00		
Weight:	105.1230	105.1232		105.1231 g
Tare:	105.1059	105.1059	105.1059	105.1059 g
Net Weight				17.2 mg

### FILTER

Filter Number: 110- 0133

	1	2	3	Average
Date:	06/21/04	06/23/04		
Time:	12:00	14:00		
Weight:	0.5356	0.5356		0.5356 g
Tare:	0.5004	0.5004	0.5004	0.5004 g
Net Weight				35.2 mg

### CONDENSABLE PARTICULATE

Sample Volume: 455 ml      Aliquot: 455 ml  
 Evaporation Dish: E21

	1	2	3	Average
Date:	06/21/04	06/23/04		
Time:	12:00	14:00		
Weight:	103.0014	103.0118		103.0066 g
Tare:	102.9941	102.9941	102.9941	102.9941 g
Net Weight				12.5 mg

## GRAVIMETRIC ANALYSIS

CLIENT: OCSD  
 REPORT #: 2061.1014  
 TEST DATE: 06/15/04

ANALYST: GS  
 METHOD: CARB Method 5

LOCATION/UNIT: P2 E1 (CAT)  
 RUN # PM-2

**PROBE AND NOZZLE WASH**

Sample Volume: 225 ml Aliquot: 225 ml  
 Evaporation Dish: E55

	1	2	3	Average
Date:	06/21/04	06/23/04		
Time:	12:00	14:00		
Weight:	101.5012	101.5009		101.5011 g
Tare:	101.4861	101.4861	101.4861	101.4861 g
Net Weight				15.0 mg

**FILTER**

Filter Number: 110- 0101

	1	2	3	Average
Date:	06/21/04	06/23/04		
Time:	12:00	14:00		
Weight:	0.5573	0.5572		0.5573 g
Tare:	0.5200	0.5200	0.5200	0.5200 g
Net Weight				37.3 mg

**CONDENSABLE PARTICULATE**

Sample Volume: 435 ml Aliquot: 435 ml  
 Evaporation Dish: E39

	1	2	3	Average
Date:	06/21/04	06/23/04		
Time:	12:00	14:00		
Weight:	86.4580	86.4583		86.4582 g
Tare:	86.4378	86.4378	86.4378	86.4378 g
Net Weight				20.4 mg

**PARTICULATE LABORATORY DATA**

Date: June 17, 2004 Client: OCSD Site: Plant 2 DD T163-7K16 EG Exhaust								
Run No.	Type	Total Sample Vol. (ml)	Aliquot Vol. (ml)	Vlc less Silica gel Vol. (ml)	Gross Wt. (g)	Tare Wt. (g)	Uncorrected Final Wt. (mg)	Corrected Final Wt. (mg)
Blank	Acetone	150	----	----	103.0094	103.0094	0.00	----
Blank	H2O	200	----	----	99.9375	99.9370	0.50	----
Blank	MeCl2	NA	----	----	NA	NA	NA	----
1	Filter	-----	----	----	0.5303	0.5145	15.80	15.80
	Front Half Rinses	185	185	----	106.2054	106.1926	12.80	12.80
	Condensables	450	450	54.9	86.5098	86.4891	20.70	19.71
	Organics	NA	NA	NA	NA	NA	NA	NA
	Total	-----	----	----	-----	-----	49.30	48.31
2	Filter	-----	----	----	0.5101	0.4960	14.10	14.10
	Front Half Rinses	205	205	-----	103.0924	103.0816	10.80	10.80
	Condensables	440	440	56.7	98.6282	98.6014	26.80	25.84
	Organics	NA	NA	NA	NA	NA	NA	NA
	Total	-----	----	----	-----	-----	51.70	50.74

Note: NA = Not Applicable for the test program.



### GRAVIMETRIC ANALYSIS

CLIENT: OCSD  
 REPORT #: 2061.1014  
 TEST DATE: 06/16/04

ANALYST: GS  
 METHOD: CARB Method 5

LOCATION/UNIT: Detroit Diesel 1 (E6)  
 RUN # PM-2

**PROBE AND NOZZLE WASH**

Sample Volume: 190 ml                      Aliquot: 190 ml  
 Evaporation Dish: E53

	1	2	3	Average
Date:	06/21/04	06/23/04		
Time:	12:00	14:00		
Weight:	99.5998	99.6002		99.6000 g
Tare:	99.5853	99.5853	99.5853	99.5853 g
Net Weight				14.7 mg

**FILTER**

Filter Number: 110- 0090

	1	2	3	Average
Date:	06/21/04	06/23/04		
Time:	12:00	14:00		
Weight:	0.5524	0.5523		0.5524 g
Tare:	0.5154	0.5154	0.5154	0.5154 g
Net Weight				37.0 mg

**CONDENSABLE PARTICULATE**

Sample Volume: 440 ml                      Aliquot: 440 ml  
 Evaporation Dish: E12

	1	2	3	Average
Date:	06/21/04	06/23/04		
Time:	12:00	14:00		
Weight:	100.3909	100.3911		100.3910 g
Tare:	100.3787	100.3787	100.3787	100.3787 g
Net Weight				12.3 mg



## GRAVIMETRIC ANALYSIS

CLIENT: OCSD  
 REPORT #: 2061.1014  
 TEST DATE: 06/17/04

ANALYST: GS  
 METHOD: CARB Method 5

LOCATION/UNIT: Detroit Diesel (New)  
 RUN # PM-2

### PROBE AND NOZZLE WASH

Sample Volume: 205 ml Aliquot: 205 ml  
 Evaporation Dish: E60

	1	2	3	Average
Date:	06/21/04	06/23/04		
Time:	12:00	14:00		
Weight:	103.0922	103.0925		103.0924 g
Tare:	103.0816	103.0816	103.0816	103.0816 g
Net Weight				10.8 mg

### FILTER

Filter Number: 110- 0135

	1	2	3	Average
Date:	06/21/04	06/23/04		
Time:	12:00	14:00		
Weight:	0.5100	0.5102		0.5101 g
Tare:	0.4960	0.4960	0.4960	0.4960 g
Net Weight				14.1 mg

### CONDENSABLE PARTICULATE

Sample Volume: 440 ml Aliquot: 440 ml  
 Evaporation Dish: E41

	1	2	3	Average
Date:	06/21/04	06/23/04		
Time:	12:00	14:00		
Weight:	98.6283	98.6280		98.6282 g
Tare:	98.6014	98.6014	98.6014	98.6014 g
Net Weight				26.8 mg

### GRAVIMETRIC ANALYSIS

CLIENT: OCSD  
 REPORT #: 2061.1014  
 TEST DATE: 06/15/04

ANALYST: GS  
 METHOD: CARB Method 5

LOCATION/UNIT: BLANKS  
 RUN #

**ACETONE BLANK**

Sample Volume: 150 ml                      Aliquot: 150 ml  
 Evaporation Dish: E64

	1	2	3	Average
Date:	06/21/04	06/23/04		
Time:	12:00	14:00		
Weight:	103.0096	103.0091		103.0094 g
Tare:	103.0094	103.0094	103.0094	103.0094 g
Net Weight				0.0 mg

**DI H2O BLANK**

Sample Volume: 200 ml                      Aliquot: 200 ml  
 Evaporation Dish: E57

	1	2	3	Average
Date:	06/21/04	06/23/04		
Time:	12:00	14:00		
Weight:	99.9374	99.9375		99.9375 g
Tare:	99.9370	99.9370	99.9370	99.9370 g
Net Weight				0.5 mg

7:30 a.m. and 4:30 p.m. on days when school is in session, until control equipment is in place, when the hours would be between 7:30 a.m. and 3:30 p.m.; and

- (iii) An engine that is located more than 100 meters (328 feet) and less than or equal to 500 feet from a school shall not be operated for non-emergency use between the hours of 7:30 a.m. and 3:30 p.m. on days when school is in session. An engine that emits diesel PM at a rate of 0.01 g/bhp-hr or less is not subject to this restriction.

(3) (C) Except as provided in subdivision (h), no owner or operator of an in-use stationary emergency standby diesel-fueled CI engine (> 50 hp) shall operate the engine in the South Coast Air Quality Management District unless it meets, in accordance with the applicable compliance schedules specified in subdivision (e), the following requirements:

- (i) Diesel PM Standard and Hours of Operating Requirements

The owner or operator of in-use stationary emergency standby diesel-fueled engines (>50 bhp), except those located on school grounds or 100 meters or less from an existing, as of April 2, 2004, school shall meet the following requirements:

- (I) No owner or operator shall operate an in-use stationary emergency standby diesel-fueled CI engine (>50 bhp) that emits diesel PM at a rate greater than 0.40 g/bhp-hr more than 20 hours per year for maintenance and testing purposes. In-use emergency standby diesel fueled CI engines operated at health facilities shall be allowed up to 10 additional hours per year for maintenance and testing purposes. This section does not limit engine operation for emergency use and for emission testing to show compliance with subparagraph (c)(3)(C).

- (II) No owner or operator shall operate an in-use stationary emergency standby diesel-fueled CI engine (>50 bhp) that emits diesel PM at a rate less than or equal to 0.40 g/bhp-hr more than 30 hours per year for maintenance and testing purposes, except as provided in clause (c)(3)(C)(ii). This subclause does not limit engine operation for emergency use and for emission testing to show compliance with subparagraph (c)(3)(C).

(ii) Alternative Diesel PM Standard and Hours of Operating Requirements

The Executive Officer may allow the owner or operator of an in-use emergency standby diesel-fueled CI engine (> 50 hp), except those located on school grounds or 100 meters or less from an existing, as of April 2, 2004, school, to operate more than 30 hours per year for maintenance and testing purposes on a site-specific basis, provided the following limits are met:

- (I) Up to 50 annual hours of operation are allowed for maintenance and testing purposes if the diesel PM emission rate is less than or equal to 0.15 g/bhp-hr.
- (II) Up to 100 annual hours of operation are allowed for maintenance and testing purposes if the diesel PM emission rate is less than or equal to 0.01 g/bhp-hr.

(iii) Diesel PM Standards and Hours of Operating Requirements For In-Use Stationary Emergency Standby Diesel-Fueled Engines (>50 Bhp) Located on School Grounds or 100 Meters or Less from an Existing, as of April 2, 2004, Schools

All in-use emergency diesel-fueled CI engines (> 50 bhp), subject to this clause, certified in accordance with the Off-Road Compression-Ignition Engine Standards (Title 13, CCR, Section 2423) shall comply with either option 1 or option 2 below. All engines not certified in accordance with the Off-Road Compression-Ignition Engine Standards (Title 13, CCR, Section 2423) shall comply with option 1, option 2, or option 3 below:

- (I) Option 1: Reduce the diesel PM emission rate by at least 85 percent, by weight, from the baseline level, in accordance with the appropriate compliance schedule specified in subdivision (e) and operate 75 hours or less per year for maintenance and testing purposes. This subclause does not limit engine operation for emergency use and for emission testing to show compliance with subparagraph (c)(3)(C); or
- (II) Option 2: Emit diesel PM at a rate less than or equal to 0.01 g/bhp-hr in accordance with the appropriate compliance schedule as specified in subdivision (e) and operate 100 hours or less per year for maintenance and testing purposes.

**PERMIT TO OPERATE**

is initial p  
ling for an

**Legal Owner  
Or Operator:**

**ID 029110**

**COUNTY SANITATION DISTRICTS OF ORANGE COUNTY  
ATTN: DENNIS MAY  
P.O. BOX 8127  
FOUNTAIN VALLEY, CA 92728-8127**

**Equipment**

located at: 22212 BROOKHURST ST, HUNTINGTON BEACH, CA 92646

**Equipment Description:**

INTERNAL COMBUSTION ENGINE NO. 1, CATERPILLAR, COMPRESSION-IGNITION, FOUR-STROKE, TURBOCHARGED-AFTERCOOLED, V-12 TYPE, MODEL NO. 3512, SER. NO. 24Z01547, 1482 HP, DIESEL OIL-FIRED, DRIVING A 1000 KW EMERGENCY ELECTRIC GENERATOR.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE 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 EQUIPMENT SHALL ONLY BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
4. THIS ENGINE SHALL NOT BE OPERATED MORE THAN 199 HOURS IN ANY ONE YEAR.
5. A NON RESETTABLE TIMER SHALL BE MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.
6. RECORDS OF HOURS OF ENGINE OPERATION SHALL BE MAINTAINED AND KEPT FOR AT LEAST TWO YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
7. THIS EQUIPMENT MAY ONLY OPERATE FOR MAINTENANCE TESTING OF THE ENGINE, MAINTENANCE AND RELIABILITY TESTING OF PLANT NO. 1 OR PLANT NO. 2 POWER SYSTEMS, DURING EXCESS POWER DEMANDS, OR DURING A UTILITY POWER OUTAGE.

**FILE COPY**

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
21865 East Copley Drive, Diamond Bar, CA 91765

**PERMIT TO OPERATE**

Permit No.

**R-D11236**

A/N 134616

Page 2

This Permit to Operate No. R-D11236 supersedes Permit to Operate  
No. R-D11236 reissued on 10/15/96.

**NOTICE**

IN ACCORDANCE WITH RULE 206, THIS PERMIT TO OPERATE OR COPY SHALL BE POSTED  
ON OR WITHIN 8 METERS OF THE EQUIPMENT.

THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF  
THOSE ALLOWED BY DIVISION 26 OF THE HEALTH AND SAFETY CODE OF THE STATE OF  
CALIFORNIA OR THE RULES OF THE AIR QUALITY MANAGEMENT DISTRICT. THIS PERMIT  
CANNOT BE CONSIDERED AS PERMISSION TO VIOLATE EXISTING LAWS, ORDINANCES,  
REGULATIONS OR STATUTES OF OTHER GOVERNMENT AGENCIES.

EXECUTIVE OFFICER

*Dorris M. Bailey*

By Dorris M. Bailey/gl  
4/24/97

**FILE COPY**

4-16-97

Permit Svcs:

Re: Reissuance of P/O R-D11232 to R-D11235

① Please delete Cond. #8. This condition (4' water) is not listed on previous permit. It also appears from application Nos. 133--- that these are old MA and equip. in service prior to 6/3/88, therefore, not subject to BACT. Therefore, it is O.K. to delete Cond. #8.

② R-D 11232 (AN 133995)

Equip. description — please have Equip. desc. as per previous Permit to operate (attached).  
Need to add Serial #, correct HP = 1482  
1000 KW instead of 800 KW.

Thank you,

Gaurang Rawra

X-2543.



**PERMIT TO OPERATE**

9150 FLAIR DRIVE, EL MONTE, CALIFORNIA 91731

Permit No:  
**D1123**  
A/N 1346  
Page 1

**This initial permit must be renewed by 10/16 ANNUALLY unless the equipment is moved, or changes ownership. If the billing for annual renewal fee (Rule 301.f) is not received by the expiration date, contact the District.**

**Legal Owner  
Or Operator:**

**ID 29110**

**COUNTY SANITATION DISTRICTS OF ORANGE COUNTY  
P.O. BOX 8127  
FOUNTAIN VALLEY, CA 92728-8127  
ATTN: DENNIS MAY**

**Equipment**

**located at: 22212 BROOKHURST STREET, HUNTINGTON BEACH, CALIFORNIA**

**Equipment Description:**

**INTERNAL COMBUSTION ENGINE NO. 1, CATERPILLAR, COMPRESSION-IGNITION, FOUR-STROKE, TURBOCHARGED-AFTERCOOLED, V-12 TYPE, MODEL NO. 3512, SER. NO. 24Z01547, 1482 HP, DIESEL OIL-FIRED, DRIVING A 1000 KW EMERGENCY ELECTRIC GENERATOR.**

**Conditions:**

- 1. OPERATION OF THIS EQUIPMENT MUST BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.**
- 2. THIS EQUIPMENT MUST BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.**
- 3. THIS EQUIPMENT SHALL BE OPERATED ONLY BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.**
- 4. THIS ENGINE MUST NOT BE OPERATED MORE THAN MORE THAN TWO HUNDRED (200) HOURS PER YEAR.**
- 5. THE ELAPSED TIME METER PROVIDED FOR THE ENGINE TO INDICATE HOURS OF ENGINE USAGE MUST BE PROPERLY OPERATED AND MAINTAINED IN GOOD OPERATING CONDITION AT ALL TIMES.**
- 6. RECORDS OF DAILY HOURS OF ENGINE OPERATION AND FUEL OIL USAGE SHALL BE MAINTAINED AND KEPT FOR AT LEAST TWO YEARS AND SHALL BE MADE AVAILABLE TO THE EXECUTIVE OFFICER UPON REQUEST.**
- 7. FUEL OIL SUPPLIED TO THIS EQUIPMENT SHALL BE PS-200 OR LIGHTER GRADE WITH A SULFUR CONTENT OF 0.05% OR LESS BY WEIGHT.**
- 8. THIS EQUIPMENT MAY BE OPERATED ONLY FOR MAINTENANCE TESTING NOT TO EXCEED 4 HOURS A MONTH AND FOR EMERGENCY ELECTRIC POWER GENERATION WHEN ELECTRICITY IS NOT AVAILABLE FROM THE UTILITY COMPANY.**

**FILE COPY**



SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

**PERMIT TO OPERATE**

9150 FLAIR DRIVE, EL MONTE, CALIFORNIA 91731

Permit No.

D11236

A/N 1346

Page 2

**CONTINUATION OF PERMIT TO OPERATE**

**NOTICE**

IN ACCORDANCE WITH RULE 206, THIS PERMIT TO OPERATE OR COPY MUST BE POSTED ON OR WITHIN 8 METERS OF THE EQUIPMENT.

THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26 OF THE HEALTH AND SAFETY CODE OF THE STATE OF CALIFORNIA OR THE RULES OF THE AIR QUALITY MANAGEMENT DISTRICT. THIS PERMIT CANNOT BE CONSIDERED AS PERMISSION TO VIOLATE EXISTING LAWS, ORDINANCES, REGULATIONS OR STATUTES OF OTHER GOVERNMENT AGENCIES.

EXECUTIVE OFFICER

By Raquel Puerta/mjd  
October 27, 1989

**FILE COPY**

10/31/2007

TERRY AHN  
ORANGE COUNTY SANITATION DISTRICT  
P O BOX 8127  
FOUNTAIN VALLEY, CA 92728

Facility ID: 29110  
Located at: 22212 BROOKHURST ST, HUNTINGTON BEACH

Thank you for filing your application(s) with the South Coast Air Quality Management District (AQMD).

The application number(s) assigned by AQMD to your application package(s) is/are on Page 2 of this letter. Please refer to the information on Page 2 when contacting AQMD for assistance. The information you submitted with your application(s) or in your latest submittal is complete to the extent that allows us to begin processing of your application(s), however some clarifying data may still be needed. The acceptance of your application(s) does not imply that permit(s) has/have been approved. The engineer assigned to process your application(s), as indicated below, may contact you if additional information is required.

If you have any question or need additional information about your application(s), please contact the engineer listed below:

**Engineer:** Gaurang Rawal

**Telephone:** (909) 396 - 2543

For general information about AQMD's permitting process, please call (909) 396-2468.

cc: Application file(s)

## AQMD PERMIT APPLICATION INFORMATION

(Please refer to this information when contacting AQMD for Assistance)

10/31/2007

Facility ID: 29110

Application Number (s)	Equipment Description
474766	I C E (>500 HP) EM ELEC GEN DIESEL <i>Cat. 1482 BHP</i>
474767	I C E (>500 HP) EM ELEC GEN DIESEL " "
474768	I C E (>500 HP) EM ELEC GEN DIESEL " "
474769	I C E (>500 HP) EM ELEC GEN DIESEL <i>Det. DSL, 2935 BHP</i>
474770	I C E (>500 HP) EM ELEC GEN DIESEL " "

}

Ident

Ident.

}

Ident.



TABLE 1.1  
SUMMARY OF RESULTS

Parameter	Units	CAT 3512	DD 9163-7305	DD T163-7K16
Stack Height Above Ground Level <sup>(1)</sup>	Ft	24.292	32.958	27.833
Stack Inside Diameter	In	11.75	12.875	15.25
Stack Flow Rate	ACFM	5,030	6,920	9,381
Stack Flow Rate @ 68 deg F, 29.92 in Hg	DSCFM	1,886	3,600	4,332
Stack Temp	Deg F	843	502	597
Stack Moisture Content	% Vol	7.4	4.7	7.0
Test Load	KW	440	386	1150
Horsepower (Rated @ Full Load)	BHP	1482	1515	2935
Horsepower (Estimated Actual Based on KW Output) <sup>(2)</sup> 44% 44%	BHP	652	547	1688
PM Concentration <sup>(3)</sup>	gr/DSCF	0.0224	0.0169	0.0103
PM Mass Emissions <sup>(3)</sup>	Lb/Hr	0.36	0.52	0.38
PM Mass Emissions (Based on Rated BHP) <sup>(3)</sup>	Gm/BHP-Hr	0.111	0.156	0.103
PM Mass Emissions (Based on Estimated Actual BHP) <sup>(3)</sup>	Gm/BHP-Hr	0.252	0.434	0.059
O <sub>2</sub> Concentration	% vd	11.59	16.40	12.30
CO <sub>2</sub> Concentration	% vd	6.88	3.38	6.36
NO <sub>x</sub> Concentration	ppmvd	1727	550	1356
NO <sub>x</sub> Mass Emissions	Lb/Hr	23.33	14.18	42.08
NO <sub>x</sub> Mass Emissions (Based on Rated BHP)	Gm/BHP-Hr	7.142	4.247	6.504
NO <sub>x</sub> Mass Emissions (Based on Estimated Actual BHP)	Gm/BHP-Hr	16.233	11.762	11.308
CO Concentration	ppmvd	242	105	79
CO Mass Emissions	Lb/Hr	1.99	1.65	1.49
CO Mass Emissions (Based on Rated BHP)	Gm/BHP-Hr	0.609	0.493	0.231
CO Mass Emissions (Based on Estimated Actual BHP)	Gm/BHP-Hr	1.384	1.367	0.401
TGNMEO Concentration	ppmv	83.5	96.6	79.5
TGNMEO Mass Emissions	Lb/Hr	0.39	0.87	0.86
TGNMEO Mass Emissions (Based on Rated BHP)	Gm/BHP-Hr	0.120	0.259	0.133
TGNMEO Mass Emissions (Based on Estimated Actual BHP)	Gm/BHP-Hr	0.273	0.718	0.231

1688 BHP  
2935 BHP

<sup>(1)</sup> Height was measured as best as possible; however ground level was sloped for CAT 3512 and DD 9163-7305 buildings.

<sup>(2)</sup> Horsepower is estimated based on calculated efficiency of full load generator to horsepower rating. Manufacturer curves should be utilized to more accurately determine horsepower at the test load.

<sup>(3)</sup> PM data is for the front-half (probe, nozzle and filter components). Additional PM data for the condensable fraction is provided in Appendix A.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  <i>ENGINEERING AND COMPLIANCE</i>  APPLICATION PROCESSING AND CALCULATIONS	PAGE	1 of 3	<b>For Official Use Only</b>
	CHECKED BY:		
	A/N:		
	PROCESSED BY:		
	DATE:		

Applicant's Name: Orange County Sanitation District ID: \_\_\_\_\_

Equipment Location: 22212 Brookhurst Street, Huntington Beach, CA 9264

Equipment Description:

EQUIPMENT: INTERNAL COMBUSTION ENGINE  
 MANUFACTURER: Caterpillar  
 MODEL NO.: 3512  
 FUELED WITH: Diesel Oil No. 2  
 DRIVING: Electrical Generator  
 SERIAL NO.: 24Z01541  
 CYLINDERS: Twelve  
 ASPIRATION: Turbocharged/Aftercooled  
 HP RATING: 1482.00

Permit Description:

INTERNAL COMBUSTION ENGINE,  
 Fixed site, Detroit Diesel, MODEL NO.  
 T163-7K16, SERIAL NO. DD5272000532,  
 Diesel Oil No. 2 FUELED, Four CYCLES,  
 Sixteen CYLINDERS,  
 Turbocharged/Aftercooled, RATED AT  
 2935 B.H.P., DRIVING AN EMERGENCY  
 Electrical Generator.

CALCULATIONS  
 See ATTACHMENT A

EVALUATION:

Rule 212: (Not Applicable if within 1,000 feet of a school.)

This is a not significant project as defined by this rule. Hence, public notice is not required.

Rule 401:

Based on experience with similar equipment, this engine is expected to comply with the visible emission limits.

Rule 402:

Based on experience with similar equipment, nuisance complaints are not expected.

Rule 404:

Based on experience with similar equipment, compliance with this rule is expected.

Rule 431.2:

Diesel fuel supplied to this equipment must contain 0.05% or less sulfur by weight. Compliance is expected.

Rule 1110.2:

Exempt per Rule 1110.2 (i)(2) and (i)(10).

REGULATION XIII:

Exempt per Rule 1301 (b)(3).

REGULATION XIV:

Exempt per Rule 1401 (g)(1)(F).

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  <i>ENGINEERING AND COMPLIANCE WORKSHEET</i>  APPLICATION PROCESSING AND CALCULATIONS	PAGE 2 of 3	<b>For Official Use Only</b>
	CHECKED BY:	
	A/N:	
	PROCESSED BY:	
	DATE:	

CARB-EPA Emission Limits for Nonroad Compression-Ignited Engines:

For engine manufacture date on or after 01/01/1982 and engine rating between \_\_\_\_\_, the following emission limits apply:

	NOx	ROG	CO	PM
<b>Required</b>				
<b>Actual</b>				
<b>Compliance</b>				

CONDITIONS

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED.
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITIONS AT ALL TIMES.
3. SULFUR CONTENT OF DIESEL FUEL SUPPLIED TO THE ENGINE SHALL NOT EXCEED 0.05% BY WEIGHT.
4. THIS ENGINE SHALL NOT OPERATE MORE THAN 200 HOURS IN ANY ONE YEAR.
5. THIS ENGINE SHALL NOT OPERATE MORE THAN 50 HOURS IN ANY ONE YEAR FOR MAINTENANCE AND TESTING PURPOSES.
6. AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER SHALL BE INSTALLED AND MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.
7. AN ENGINE OPERATING LOG LISTING THE DATE OF OPERATION AND THE ELAPSED TIME, IN HOURS, AND THE REASON FOR OPERATION SHALL BE KEPT AND MAINTAINED ON FILE FOR A MINIMUM OF TWO YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.
8. IN ADDITION TO MAINTENANCE AND TESTING OF THIS ENGINE, THIS ENGINE SHALL ONLY BE USED FOR EITHER PROVIDING ELECTRICAL POWER TO PORTABLE OPERATIONS OR EMERGENCY POWER TO STATIONARY SOURCES. PORTABLE OPERATIONS ARE THOSE WHERE IT CAN BE DEMONSTRATED THAT BECAUSE OF THE NATURE OF THE OPERATION, IT IS NECESSARY TO PERIODICALLY MOVE THE EQUIPMENT FROM ONE LOCATION TO ANOTHER. EMERGENCIES AT STATIONARY SOURCES ARE THOSE THAT RESULT IN AN INTERRUPTION OF SERVICE OF THE PRIMARY POWER SUPPLY OR DURING STAGE II OR III ELECTRICAL EMERGENCIES DECLARED BY THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  <i>ENGINEERING AND COMPLIANCE</i>  APPLICATION PROCESSING AND CALCULATIONS	PAGE	3 of 3	<b>For Official Use Only</b>
	CHECKED BY:		
	A/N:		
	PROCESSED BY:		
	DATE:		

9. UPON THE FIFTH DAY AFTER PLACEMENT OF THIS EQUIPMENT INTO OPERATION AT A NEW SITE, THE DISTRICT SHALL BE NOTIFIED VIA TELEPHONE AT 1-877-810-6995 OF THE EXACT NATURE OF THE PROJECT AS FOLLOWS:

- A. THE PERMIT NUMBER OF THE PORTABLE EQUIPMENT.
- B. THE NAME AND TELEPHONE NUMBER OF A CONTACT PERSON.
- C. THE LOCATION WHERE THE PORTABLE EQUIPMENT WILL BE OPERATED.
- D. THE ESTIMATED TIME THE PORTABLE EQUIPMENT WILL BE LOCATED AT THE SITE.
- E. DESCRIPTION OF THE PROJECT.
- F. IF LESS THAN 1/4 MILE, THE DISTANCE TO THE NEAREST SENSITIVE RECEPTOR. SENSITIVE RECEPTORS ARE DEFINED AS LONG-TERM HEALTH CARE FACILITIES, REHABILITATION CENTERS, CONVALESCENT CENTERS, RETIREMENT HOMES, RESIDENCES, SCHOOLS, PLAYGROUNDS, CHILD CARE CENTERS, AND ATHLETIC FACILITIES.

10. THIS ENGINE AND ITS REPLACEMENT UNIT INTENDED TO PERFORM THE SAME OR SIMILAR FUNCTION, SHALL NOT RESIDE AT ANY ONE LOCATION FOR MORE THAN 12 CONSECUTIVE MONTHS. THE PERIOD DURING WHICH THE ENGINE AND ITS REPLACEMENT IS MAINTAINED AT A STORAGE FACILITY SHALL BE EXCLUDED FROM RESIDENCY TIME DETERMINATION.

11. THIS ENGINE SHALL NOT BE REMOVED FROM ONE LOCATION FOR A PERIOD OF TIME, AND THEN IT OR ITS EQUIVALENT ENGINE RETURNED TO THE SAME LOCATION, IN ORDER TO CIRCUMVENT THE PORTABLE ENGINE RESIDENCE TIME REQUIREMENTS.

ORANGE COUNTY  
SANITATION DISTRICT

10844 Ellis Avenue, P.O. Box 8127  
Fountain Valley, CA 92728-8127  
(714) 962-2411

VENDOR NO. 15843

DATE: 10/17/07

CHECK NO. 1000095037

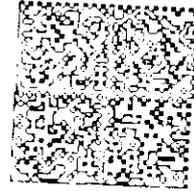
VENDOR NAME SOUTH COAST AIR QUALITY MGT RE

INVOICE NO.	INVOICE DATE	DESCRIPTION	GROSS AMOUNT	DISC. - ADJ.	PAYMENT AMOUNT
SCAQMD PERMIT # D11237	09/04/07	SCAQMD Permit No. D112	923.92		923.92
			AMOUNT - U.S. DOLLARS		\$*****923.92

COUNTY SANITATION DISTRICT

P.O. Box 8127 • Fountain Valley, CA 92728-8127

PERMIT # D11237



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\$00.750

10/17/2007

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South Coast Air Quality  
Management District  
P.O. Box 4944  
Diamond Bar CA 91765

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